"Look at Your Neighborhood"

Traveling Exhibit Available

TWO of the twelve panels (originals each 30 x 40 inches) of a loan exhibition which opened on March 28 at the Museum of Modern Art, New York, are here shown.

The exhibition attempts to answer the demands from educational and civic organizations for intelligent and practical information on community planning. It is gauged to the interest of a wide public, laymen, high school and college students, and acquaints them with the general considerations essential to small or large-scale planning. In original drawings, photographs and diagrams, with simple explanatory text, it presents the neighborhood requirements of a modern city.

The concluding panel, "When We Build Again," contains the following wording and challenge:

There will be new housing (private and public), schools, shops, offices, airports, public buildings, roads, parks—

Will they be strewn around in the wasteful, haphazard way of the past?

Or shall we *plan* to put them together to make sense for the future?

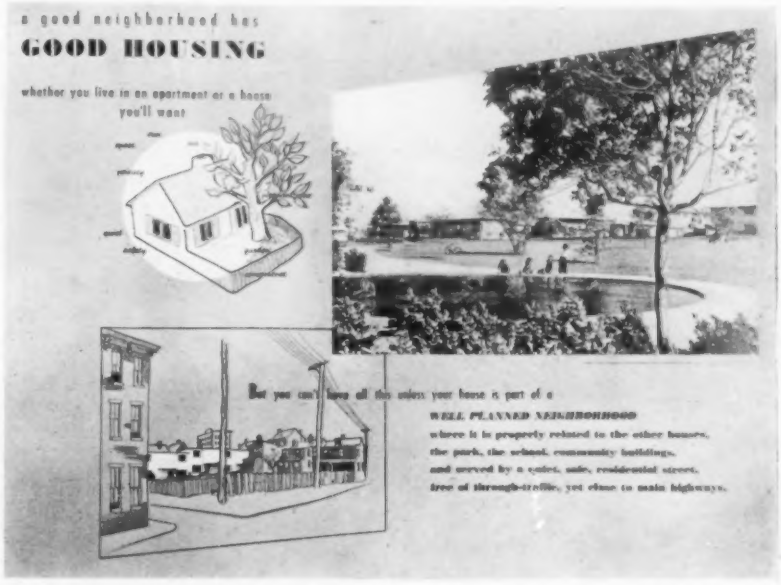
Plans must be made *here and now*. Some cities and towns have already made a good start. In others, citizens and civic organizations are just beginning to make themselves heard.

WHAT ABOUT YOUR TOWN?

This is everybody's concern. We have the resources for a good job: men, land, materials, ideas, and yes, money too. But all that is not enough. The full cooperation of public and private enterprise, local initiative, and *your* active interest are all essential if plans are to be transformed into actuality.

HERE'S OUR CHANCE!

The exhibition was designed by Rudolf Mock, architect, with the advice of Clarence S. Stein, F.A.I.A. The panels, mounted on heavy cardboard, may be purchased at $45 for the set, plus mailing charges; or may be rented for $8 for three weeks plus transportation charges from the previous city on the itinerary. Address Department of Circulating Exhibitions and Educational Services, Museum of Modern Art, 11 West 53d Street, New York 19, N. Y.


a good neighborhood has
GOOD HOUSING
whether you live in an apartment or a house
you'll want
But you can't have all this unless your house is part of a
WELL PLANNED NEIGHBORHOOD
where it is properly related to the other houses,
the park, the school, community buildings,
and served by a quiet, safe, residential street,
free of through-traffic, yet close to main highways.

a good neighborhood has
A SHOPPING CENTER
Here the stores for your day-to-day shopping
are grouped together in one place.
You can easily walk there through the park
from any house in the neighborhood.
If you come by car you'll find ample parking space.
Such a group of shops, including some offices
for professional services, can serve the community
more economically than many scattered ones.
SHOPPING IS SOCIABLE
The shopping center should be close to
the community center. It might include
a restaurant, a bar, a movie theater,
a bowling alley, etc.
It should have a play yard in which to
leave children while you shop.

$8,000 in Prizes for a Boston Area Program

A CHALLENGE to the intelligent imagination of residents of the Metropolitan Area of Boston, Mass., is offered in "The Boston Contest," announced at the Institute on Post-War Problems held in connection with Boston University Founders' Day, March 13.

The contest offers a first prize of $5,000, a second prize of $2,000, and ten "honorable mention" prizes of $100 each. *Intention to enter the contest must be filed not later than April 15.*

The rules of the contest provide that manuscripts must be mailed or delivered by June 19. Each entrant must present, in not more than 15,000 words, "a practical master program designed to promote the sound growth and prosperity of the Boston Metropolitan Area." Reports must follow an outline, obtainable from Boston University, which is presented under the following headings:

Political Organization
Taxation and Revenue System
Assessment and Depreciation
Industrial Relationships and Development
Commercial Relations and Development
Educational Development
Recreational Development
Welfare Systems
Residential Redistribution and Development
Transportation
Citizen Participation

COMMITTEE OF JUDGES

Charles Francis Adams, President, Greater Boston United War Fund
Harold S. Buttenheim, Editor, THE AMERICAN CITY
William Roger Greeley, Chairman of The Boston Contest
Joseph Hudnut, Harvard University
Daniel L. Marsh, President, Boston University
Lewis Mumford, Author of "The Culture of Cities," etc.
Henry J. Nichols, President, Boston Chamber of Commerce

Inquiries should be addressed to The Boston Contest, Boston University, 688 Boylston Street, Boston 16, Mass.

IT HELPED WIN A GREAT BATTLE

Sealed in this box and deposited in the vaults of the Bell Telephone Laboratories is a special device that helped win a great battle. It is being preserved for its historical significance.

Such things do not just happen. New instruments of war may appear suddenly on the battle-fronts. But behind them are long years of patient preparation.

Our scientists were organized to have this device ready for battle—just as our fighting forces were organized to be ready for that battle.

Developing secret military devices is a big job but big forces are busy on it, day and night.

Concentrating on this job are more than 7000 people in the Bell Telephone Laboratories. Its scientists and engineers and their skilled associates form a highly organized team, experienced in working things out.

Today's work for war had its beginning many years ago when these laboratories were founded as part of the Bell System's service to the public.

BELL TELEPHONE SYSTEM

Our Municipal Notebook

City Fathers to Help Soldier Sons and Daughters

AFTER World War I numerous new agencies attempted to assist servicemen in their return to civilian employment. There was so much overlapping, inefficiency, and lack of authoritative responsibility that the victims frequently found little real help but plenty of bewilderment. Such a situation could be intensified after this tough war.

Mayor Jasper McLevy and I have been working on a municipal plan to give servicemen and women coming home to Bridgeport a real helping hand. Through our contacts with local business and industry we will place an applicant to us in touch with actual employment openings. If necessary, we will write letters for individuals and arrange personal interviews.

This is not to be construed as a welfare activity but is a direct helping hand by the city to its own sons and daughters. We believe that many times, if an individual attempts to do these things for himself, he may run into difficulty because of inattention on the part of agencies to whom he applies. If, however, he is backed up by the city and the city insists that the proper attention be given to the individual, it is our belief that a much more efficient method will evolve. The main thing that we propose doing is to determine as accurately and intelligently as possible the veteran's immediate needs, to find out how or where they can be satisfied, and to keep on doing just that until a definite result is achieved.

PERRY W. RODMAN
Comptroller
Bridgeport, Conn.

"The Human Side of City Hall," January, 1944, suggests further ways for cooperating with Mr. Citizen; and Henry J. Kaiser has given suggestions reprinted on page 5 of the March, 1944, issue.—THE EDITOR.

Hot Water Tanks Become Street Markers

DURING recent scrap drives in Great Falls many old and discarded hot water tanks were collected. Having small if any value as war scrap, Mayor E. L. Shields suggested converting them into street markers. Tanks 12 x 60 inches were made watertight, painted traffic yellow, lettered in black, and sunk into street corners thirty inches. They are visible at night and are said to have an attractive appearance by day. Several hundred of these markers have been installed in Great Falls at a cost of $2 per tank including painting, repairs and installation.

W. P. HARRISON
City Clerk, Great Falls, Mont.

City officials whose municipal buildings (or homes!) are without copper boilers, and whose steel boilers are filled with plugged leaks may be glad to know that their boilers may have an extra use.—THE EDITOR.

Insuring safety and heeding war-time restrictions, Great Falls, Mont., makes use of discarded hot water tanks for street markers.

Good Lasting Traffic Markers

THE rubber disc traffic markers we installed in Philadelphia have proved very satisfactory, particularly for lane or center lines. Our metal markers have also proved satisfactory for crosswalks and stop lines. In the summer of 1939, we installed both of the above types on the Girard Avenue Bridge in asphalt paving where the volume of traffic normally reaches 28,000 vehicles in the 12 daylight hours. A few of the markers have been torn up by snow plows but the job as a whole looks very good today. I did notice, however, that some of the rubber markers have worn down to where they look pretty thin and it is questionable how much longer they will last.

We have several locations where the rubber markers are used for a center line. Here they do not get as much wear from the vehicle wheels and they appear in perfect condition after three years of use. Where we have installed these markers in granite block, they have also stood up remarkably well after more than 3½ years of service. The metal markers installed for stop lines in the granite block have also weathered the storm for the same length of time, although the snow plows have dug up a few.

The rubber markers were invented by the Farrell Safety Marker Co., and then taken over and produced by the Lee Tire and Rubber Co., Conshohocken, Pa.

Mr. Farrell is now manufacturing a similar size marker made out of a gypsum-like product. I understand some of these have been installed on Journal Square in Jersey City and are giving good service. We have just installed a number for test purposes on a stop line. Every other one of the markers has had a glass beaded top fused on the marker and they stand out remarkably well at night when reflected back from the headlamps.

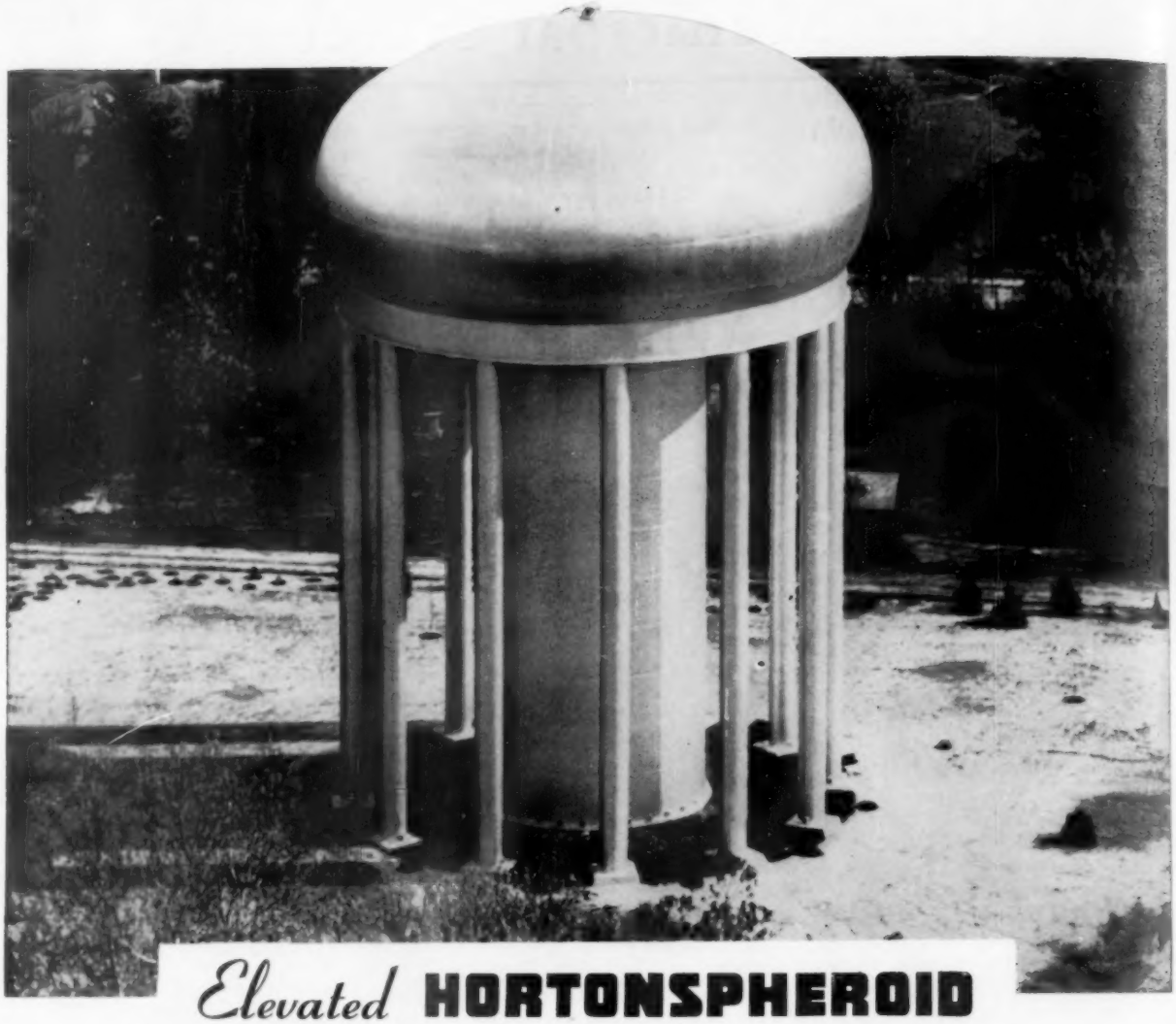
There is also another marker manufactured by the Armor-Flex Co., St. Louis. We have not used it, but may try some later on. Newark, N. J., has contracted for thousands of these markers. They have been installed in this area in Ardmore, Pa., by the Lower Merion Township Superintendent of Police and have been down since September 1939. They appear to make a good marker, are easy to install, and seem to last quite a while.

ROBERT A. MITCHELL
Chief
Bureau of Traffic Engineering
Philadelphia, Pa.

"Tolerance" in 1649

THE Maryland General Assembly passed "an Act Concerning Religion," which has been called the pioneer toleration law in America. It authorized public places of worship for the Anglican Church. A law punished all mutinous and seditious speeches and acts by imprisonment during pleasure, fine, banishment, boring of the tongue, slitting the nose, cutting off one ear or both ears, whipping, branding with a red-hot iron on the hand or forehead, according as the court should think suitable. Other punishments were losing the right hand, and being nailed by the ears to the pillory.

—From "Memorable Dates" in 1943 WORLD ALMANAC—BOOK OF FACTS.



Elevated HORTONSPHEROID

provides lasting benefits for residents of Jonesboro, Arkansas

It was a "red-letter" day for the residents of Jonesboro when the engineers and municipal officials decided to erect this 1,000,000-gal. elevated Hortonspheroid. Immediately after its installation charts showed that distribution pressures were held practically constant where formerly they fluctuated between 30 and 60 lbs. . . . and even in the face of today's peak loads, this elevated tank has helped to maintain adequate and uniform pressures. Another advantage provided by elevated storage and much in evidence at Jonesboro is the ability of this type of storage to materially reduce peak loads on the electric plant during on-peak periods.

Recent reports indicate that this elevated tank has handled without difficulty of any sort, an increase in annual pumpage from 354,000,000 gals. in 1940 to 490,000,000 gals. in 1943.

Take a tip from municipalities which are today enjoying the benefits of Horton elevated storage. Write for full information . . . remember *tomorrow's water supply systems are planned today.*

Horton elevated tanks such as this symbolize the far sightedness of the engineers and municipal officials who planned them.

CHICAGO BRIDGE & IRON COMPANY

Birmingham 1 ....1502 North Fiftieth Street
Houston 1 .....5601 Clinton Drive
Tulsa 3 .....1625 Hunt Building
New York 6....3308—165 Broadway Building
Cleveland 15.....2236 Guildhall Building

Chicago 4 .....2127 McCormick Building
San Francisco 5.....1033 Rialto Building
Philadelphia 3.1616-1700 Walnut St. Building
Havana .....402 Edificio Abreu
Washington 5 .....330 Bowen Building

Plants in BIRMINGHAM, CHICAGO and GREENVILLE, PENNSYLVANIA

Water Supply and Treatment

Strong Technical Conference Program

PLANS for the 1944 Conference of of the AWWA to be held in Milwaukee. Wis., June 13 to 16, now include a strong and instructive technical program.

One session will be devoted to a review of the cost and life history of water-works structures as well as an analysis of the Report on Depreciation which has been prepared by the National Association of Railroad and Utilities Commissioners. Management problems of water-works in wartime will be reviewed by several speakers.

The Water Purification Division will consider the most recent of the new processes of reclaiming lime sludge from water softening plants and will bring to light activity both in the United States and England looking toward the reduction of lime-sludge disposal problem as well as the use of lime deposited from the water as a treatment agent for water subsequently purified.

It Depends on How You Use It

IT all depends on how you are going to use the phosphates, whether you apply them at the rate of 1, 2, or 20 ppm for various control work, according to Owen Rice, Calgon, Inc., 323 Fourth Ave., Pittsburgh, Pa. Speaking before the Illinois Water-Works Operators' Conference held recently in Springfield, Ill., he outlined the differences.

For example, when using Calgon for corrosion control, from 10 to 20 ppm may be required to give good results in protecting a hot-water system while only 4 ppm would be adequate for cold water in a small city with a rather extensive distribution system. Probably 2 ppm would be sufficient for the average municipality, while only 1 ppm would furnish good protection to the distribution system of a large municipality.

More specifically, if either "red water" or scale is the problem to be controlled, then the phosphates should be added in proportion to the amount of water pumped. This is natural since either the iron or calcium carbonate or iron, which is to be kept from precipitating, is in the water itself. When it comes to the matter of corrosion control, however, a different problem is presented. Here the material to be treated is the surface of the pipes instead of the water. It is natural then, that the amount required should be proportional to the area of the pipe which is to be protected, rather than the amount of water passing through the pipe.

How Much Does a Water Leak Leak?

HARRY E. JORDAN, AWWA's capable and hard-working secretary, told us not so long ago via some publicity material for water conservation that if it dripped slow, it lost 15 gallons per day; that if it measured 1/32-inch, it lost 165 gallons per day; 1/16-inch, 650 gallons per day; and 1/8-inch leak, 2,520 gallons. Since Harry said so, most of the water-works fraternity accepted it as sort of semi-official.

The trouble with figures like these is that they are apt to be given a quick check by some theorist who demands accuracy to the sixth significant figure whether the subject requires it or not. Making several assumptions, practically none of which would exist in standard water-works operation—assuming that the 1/32-inch leak is through an absolutely round hole and that it discharges exactly 165 gallons, next assuming that the 1/16-inch leak is from an opening of absolutely similar characteristics, assuming that the temperature of the water, the pressure, the atmosphere conditions, and the disposition of the operators are all identical—then the flow should be four times 165 gallons or 660 gallons per day, admittedly not a great variation from Harry's figure of 650 but enough to cause a certain amount of questioning by slide-rule experts who like that sort of thing. Similarly, the 1/8-inch leak should amount to 2,640 instead of 2,580, a somewhat more formidable difference.

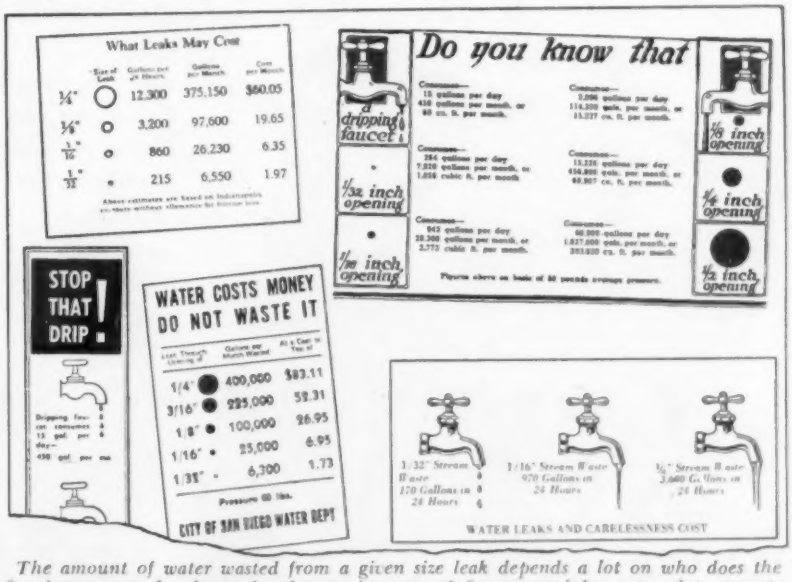
These inconsistencies must have caught up with and begun to plague the amiable Harry because in the AWWA Journal for March we find him bulwarking his figures by reference to Freeman's table appearing in Vol. 21 of the Proceedings of the Am. Soc. of C.E., and a factor of 0.6 applied to the basic data to adjust for high friction loss. Freeman's table alone was enough to slow practically anyone up, much less the factor of 0.6. The paper referred to is an authoritative analysis of fire flows appearing in the Transactions of the Society for 1889 and despite its age is still highly respected and quoted occasionally. Incidentally, it is thick with tables, but none of those we looked over seemed to have any bearing on flows that might be classed as "slow drip, 1/32-inch leak, 1/16-inch leak, 1/8-inch leak." Plenty, to be sure, on the matter of nozzles 1/2-inch and larger such as those that firemen use, but when you get down to the sizes we have under consideration, most firemen aren't interested.

As a matter of fact it doesn't make much difference, and only a mathematical purist would worry about it. And as everybody knows, pure and theoretical examples of mathematics occur only in the textbooks anyway. In any case the idea is to stop the leak rather than calibrate it.

Remember that story of the way that the late Calvin Coolidge summarized a lengthy sermon by an eminent preacher on the subject of sin?

"He was," said Calvin," against it."

That reflects the water-works professional thoughts on leaky faucets. We're against 'em.



The amount of water wasted from a given size leak depends a lot on who does the figuring as may be shown by the varying sets of figures used by water departments throughout the country. The example was taken from page 399 of the March issue of the Journal of the American Water Works Association.

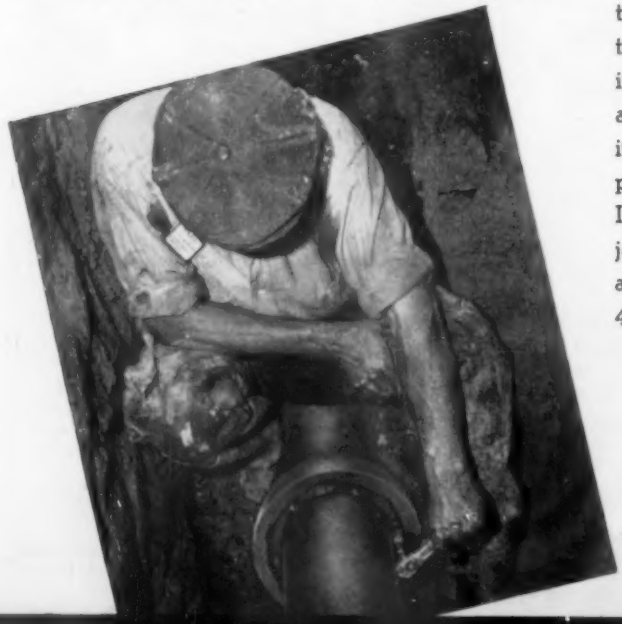
The Latest Development

in a Mechanical Joint for Cast-Iron Pipe

The "All-in-One" DRESSER Bellmaster Joint

As cast-iron pipe again becomes available, you naturally take keen interest in a faster and better method of joining it. The compact, tight, flexible Dresser Bellmaster Joint, Style 85, offers you both speed and efficiency.

In the Bellmaster, Dresser engineers have developed a mechanical joint of amazing simplicity. Each joint consists of a resilient rubber-compound gasket compressed by capscrews between two light, strong malleable iron rings. It is shipped, stocked and installed completely assembled.



The Dresser Bellmaster makes up tight and stays tight. Automatically absorbing expansion, contraction, deflection and vibration to an unusual degree, it cushions and protects the pipe while maintaining a constant seal. Locked within the bell of the pipe, it is completely enclosed. No outside lugs, no exposed parts to chip or corrode.

Investigate this latest development in a mechanical joint for C I P. Makers can supply Bellmaster pipe, and we are able to ship joints promptly. Sizes—3", 4", 6", 8", 10", 12" and 16".

Catalog 413 ARM on request.

Your workman has only one piece to handle — even the newest man on the job can make up tight joints in from two to five minutes with the Dresser Bellmaster.

DRESSER MANUFACTURING COMPANY • BRADFORD, PA.

AFFILIATED WITH DRESSER INDUSTRIES

Airports and Aviation

Cincinnati Studies New Airport Possibilities

CINCINNATI and its suburbs are taking no chances with the future regarding airport facilities. On March 3 the Board of County Commissioners instructed the Regional Planning Commission to make a survey covering the possible locations in the county where an auxiliary airport might be constructed.

This study will fit into the ultimate preparation of a master plan for airports. It will require close interrelation with other plans regarding industrial and residential developments and should fit into a zoning program in order to prevent the possibility of the erection of structures that would obstruct the flight of the planes as they take off or land.

Officials point out that the recent tabling by a committee of the State Assembly of a bill to permit zoning unincorporated areas in Ohio counties makes planning difficult.

Pick-Up Air Service

LOCAL feeder pick-up air service is being investigated by the Civil Aeronautics Board to determine the extent that air transportation can be extended to smaller communities. The board feels that air transport is at the threshold of large development and that new technical discoveries may make feeder service available to a great number of small communities now unable to support such service.

The board expects to give the leaders in the field an opportunity to contribute their accumulative experience so that it may be utilized in planning for local air servce development.

Who Will Need Airports?

EVERY city of 5,000 or over will need an airport after the war. This is the opinion of John J. Hogan, District Airport Engineer, Civil Aeronautics Administration, expressed recently before the annual convention of the Illinois Municipal League in Peoria.

"At present," he said, "there are almost 3,000 classified airports in the country. This is not nearly enough. Even before Pearl Harbor we had need for 4,000 and a safe estimate for the post-war period would place the figure close to 6,000 or double the present number."

According to Civil Aeronautics Administration estimate, Mr. Hogan states that after the war civil aviation will consist of three major types: scheduled airline transport, general commercial transporation of goods and passengers by chartered planes and other commercial service, and private flying for pleasure and business.

Minnesota Draws Zoning Ordinances

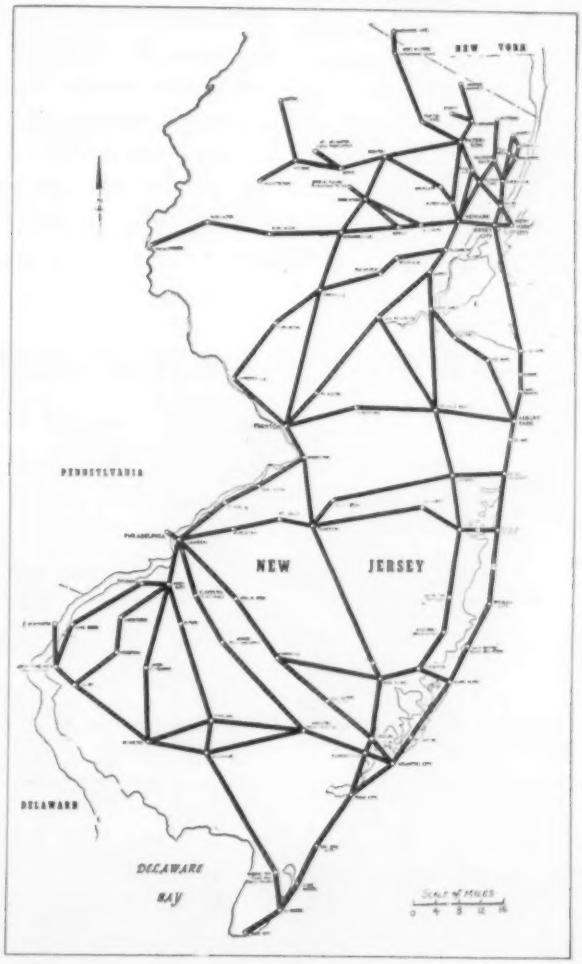
IT will be easier to build an airport in Minnesota now that the legislature in that state has broadened the states aeronautics code to include the incorporation of comprehensive airport zoning provisions, according to the American Municipal Association. The provisions are based on the model zoning act prepared by the Civil Aeronautics Administration.

Metropolitan airport zoning also has received a boost by the new "Metropolitan Airport Act" enacted by the Minnesota legislature. The act establishes a public corporation known as the Metropolitan Airport Commission to develop airports for Minneapolis and St. Paul.

Helicopter Service Plan in New Jersey

PROPOSED routes for public service helicopters in the state of New Jersey has passed the "talking stage" and has approached the point of definite scheduling of routes and trafficways.

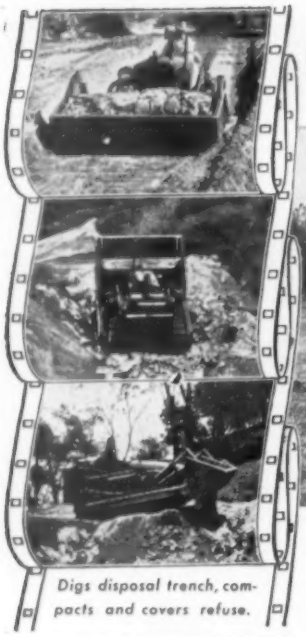
The Public Service Interstate Transportation Company and the Public Service Co-ordinated Transport recently filed with the Civil Aeronautics Board an application for permits to operate 32 helicopter routes, chiefly in New Jersey, for the transportation of passengers, property, and mail.



Proposed helicopter service routes planned for New Jersey

The Answer To Your Waste Disposal Problems!

DROTT BULL CLAM SHOVEL METHOD OF SANITARY FILL



Digs disposal trench, compacts and covers refuse.

APPROVED METHOD

This one unit performs all the operations necessary to construct a good sanitary fill such as recommended by the U. S. Public Health Service and U. S. Army repairs and utilities division. Hundreds of units now in use throughout the country.

WHAT IT IS! It is a new method of Sanitary Fill. Digs trench for refuse, compacts it by traveling back and forth, then covers with dirt (top soil) taken from far end of trench or from new trench adjoining. All rubbish is completely covered after each day's haul.

Controlled by **DROTT**
CLOSED HYDRAULIC SYSTEM
• • •
POSITIVE • SMOOTH • QUICK
• • •
Keeps dirt and air out... keeps oil in! Used successfully on Drott equipment for many years.

WHAT IT DOES! 1. Lowers disposal cost and manpower requirements to a minimum. 2. Enables you to construct Sanitary Fills close to residential areas — thereby shorten hauls. 3. Permits land reclamation, building up of low areas and leveling uneven or hilly places. 4. Eliminates fire hazards and odor ... minimizes the blowing of dust, papers, etc., over neighborhood. 5. Does not attract rats and other rodents, flies, maggots, mosquitoes and roaches.

DROTT BULL CLAM SHOVEL FITS ALL CURRENT MAKES AND MODELS OF CRAWLER-TYPE TRACTORS
30 TO 130 H. P. 4 SIZES — 1 TO 4 YDS. CAPACITIES

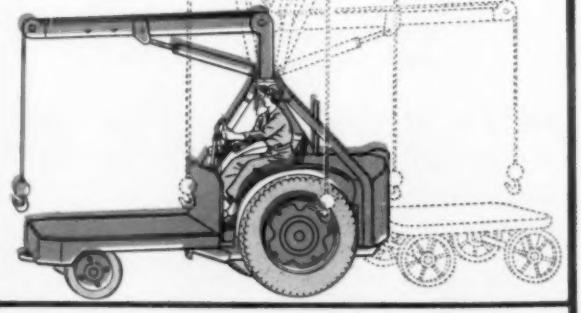
GET THE COMPLETE STORY!

— Send for this Book.

"ANSWER TO YOUR WASTE DISPOSAL PROBLEMS...WITH THE DROTT BULL CLAM SHOVEL"

FREE!

ANOTHER DROTT OUTFIT...WITH A NEW KIND OF PERFORMANCE
DROTT GO-DEVIL TRACTOR CRANE



Ideal for use in shop or yard... or loading and unloading gondolas, boxcars, transport trucks! Handles loads up to 2,000 lbs. Boom swings a full 375°, extends to 90", reaches to 14' 9". Drott positive, closed hydraulic system controls steering and operation! Write for literature.

DROTT UNIVERSAL EQUIPMENT ..Write

HI-WAY SERVICE CORPORATION 3841 W. WISCONSIN AVE., MILWAUKEE 8, WIS. 739 MUNSEY BLDG., WASHINGTON 4, D. C.

Sewerage and Sewage Treatment

Chemical Standards High Despite War

DESPITE the increased tempo of war with its attendant demands for chemicals and their by-products, the manufacturers have been able to maintain the high standards of chemicals for both water and sewage treatment: this was disclosed at a symposium on the effect of the war on chemicals used in sewage treatment, delivered at the New Jersey Sewage Works Association annual meeting in Trenton.

Alum Development

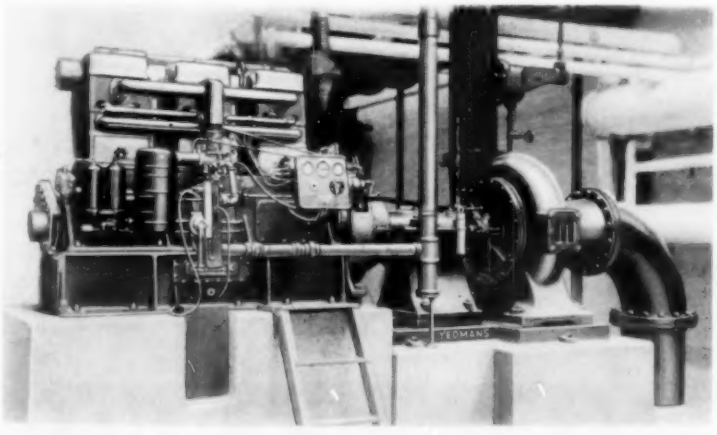
The effect on the manufacture of alum was particularly interesting. As disclosed by Richard Ockershausen, Engineering Service Department of the General Chemical Company, it first appeared that the standards for alum would have to be greatly reduced if low grade aluminum ore had to be used so that the demands of the airplane industry for aluminum metal from high quality ore could be met. Standards were accordingly revised reducing the water soluble Al_2O_3 content to a minimum of 14 percent and raising the iron content to 3 percent and the content of insolubles to 15 percent. However, manufacturers did not use the relaxed quality specification as an excuse to cheapen their product. Improved processing resulted in a product that, while differing from the pre-war alum, still had good characteristics. At a recent operators meeting one speaker reported ten analyses of alum by different manufacturers showed that the Al_2O_3 content averaged 15.6 percent, the iron content 0.34 percent and the insoluble content 6.08 percent. Mr. Ockershausen reported the findings of five operators who stated that they used no more of the "war alum," and of three who said they actually used less or had improved floc formation. The higher content of insoluble material or aluminum silicate, instead of proving to be detrimental, actually is an aid in that it provides a nucleus for the floc.

Gas Engine Economy Beats Estimate

THE original estimate was that the gas engine installed in the sewage-treatment plant at the Galesburg, Ill., Sanitary District would pay for itself in three years. Actually it beat this estimate by nearly one-third. It paid for itself in a little better than two years instead of three.

The Galesburg plant, built back in 1931, was equipped with three Yeomans horizontal pumps that operated against a head of 35 feet. Two were 12-inch units capable of 6 mgd while the third was a 10-inch pump rated at 4 mgd. After six years of operation, Superintendent L. W. Hunt decided that there was absolutely no use letting all the excess sludge gas go to waste so he installed a 60 hp Climax gas engine connecting it directly to one of the 6 mgd pumps.

This gas engine used 3,354 cubic feet of gas per million gallons of sewage pumped. In 27 months of operation it produced a savings of $5,699.20 or more than the cost of its installation. During this period it saw 17,104 hours of service and handled 87.6 percent of the total sewage flow.



This gas engine beat all preliminary estimates when it came to earning power for the Galesburg, Illinois Sanitary District. Expecting to pay for itself in three years of operation, it actually did this after two years of trouble-free service.

The World's Only Sewage Plant Orchestra

THE world's only sewage-treatment symphony orchestra turned up to furnish the stellar entertainment for the New Jersey Sewage Works Association at its recent conference in Trenton. The orchestra, recruited wholly from the Joint Meeting Sewage Treatment Plant, Elizabeth, N. J., consisted of seven instruments and was led by Chief Engineer, Ed Decher.

Plant Workmen Former Professional Musicians

Members of the orchestra were William Sachman, piano and trumpet player—plant pump operator; William Faller, drummer—pump operator; Emil Kopper, bass viol—screen house operator; John Staehle, trombone, piano accordian, and piano—general maintenance man; Andrew Giacobbe, saxaphone, clarinet, and violin—Meider machine operator; William Billington, clarinet—screen house operator; Jack Scholl, drums—Meider machine operator. Orchestra leader and Chief Engineer Decher took an occasional hand at the drums.

The group has an interesting background. Sachman, Staehle, and Scholl all are veterans of World War I. Staehle was leader of the 312th Infantry band with Sachman and Scholl serving under him. Billington was at one time with Barnum and Bailey and the Ringling Brothers circus. Kopper played the bass viol at Loew's in Newark for 15 years. Giacobbe and Faller have played with several professional orchestras and bands.

Represents Hiring Policy

The presence of these men on the staff of the Joint Meeting plant represents a policy adopted by the board of hiring older men of ability regardless of their lack of background in the sewerage field. Professional musicians showed characteristics particularly well suited to the work by reason of their careful attention to details and desire to perform their jobs thoroughly.

"We call the band," says Maestro Decher, "the Joint Meeting Sewage Disposal Plant Semi-Classical, Silver Horn Orchestra."

FOR QUICK ACTION ON STEEL

Principal Products

Bars • Shapes • Plates • Floor Plates • Sheets • Structurals • Reinforcing • Mechanical Tubing • Boiler Tubes • Boiler Fittings • Carbon and Alloy Steel • Tool Steel • Allegheny Stainless • Babbitt • Solder • Wire • Chain • Rivets • Nuts, Bolts, etc.

Write for Stock List

Every type of steel from stainless to structurals is carried in stock for quick shipment from eleven strategically located Ryerson plants—steel for maintenance and repair, for replacements and new construction, for all the varied municipal requirements. If you have a problem of selection, application or fabrication Ryerson engineers and metallurgists will gladly work with you. Through more than a century of service Ryerson has established itself as a fast, dependable source. Call Ryerson first when you need steel.

Joseph T. Ryerson & Son, Inc., Plants at: Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, Boston, Pittsburgh, Philadelphia, Jersey City.

RYERSON STEEL-SERVICE

Refuse Collection and Disposal

Controlled Open Incineration— A Wartime Stop-Gap

THERE is a good deal of difference between the method of refuse disposal used in Washington, D. C., which Superintendent William E. Xanten has named "Controlled Open Incineration," and the old-fashioned health-menacing "burning dump" just as there is a great deal of difference between the open dump and the Sanitary Fill.

In the first place, as Superintendent Xanten repeatedly points out in the article appearing on page 42 of this issue, the method used in Washington is not an alternate for standard incineration. It is a stop-gap to be used only until adequate incinerators can be supplied. But it is a well-engineered stop-gap that leaves the filled area in excellent condition and makes the most of the space available.

The method is useful chiefly for the larger cities with heavily built-up areas that make the disposal of garbage and refuse a ticklish problem because of the scarcity of dumping areas. Incineration, whether by closed furnaces or by open controlled fires, has the advantage of reducing the amount of residue that must be ultimately handled, and producing a filled area with a high load-bearing factor and generally good sanitary characteristics. Both are important factors for the larger city.

Regarding the Sanitary Fill, this method still remains of marked value, particularly where dumping space is more easily accessible. Smaller cities that feel they cannot afford to own and operate incinerators undoubtedly will adopt this method in increasing numbers and will find that it gives them real, permanent benefits.

Philadelphia's Rubbish Court

PHILADELPHIA has established a "rubbish court" for the prosecution of householders and property owners who allow the streets in front of their properties to become littered. City officials report a vast improvement in conditions of streets and alleys since the prosecuting of offenders was started, the International City Managers' Association, said recently.

Invoking a city ordinance and a 1938 state law against littering highways, police made arrests for the offense and had 125 defendants for the first session of court. Fines ranged from $4 to $7; however, one restaurant operator was assessed $19 for allowing rubbish and bottle caps in front of his establishment and for burning refuse in violation of the city ordinance.

Education Precedes Enforcement

Educational work was carried on by police officers before enforcement of the ordinance began. Storekeepers and householders were instructed during the educational phase in how to prepare and put their refuse, particularly their rubbish, out for collection. There was no marked change made in the manner in which material was to be put on the curbs for collection.

Brookline Reopens Municipal Incinerator

BROOKLINE, MASS., has recently reopened its municipal incinerator in order to help in the various government salvage drives.

The incinerator has not been operating previously because the contractor failed to renew his contract and the town was unable to secure any satisfactory bids. Brookline's incinerator is a 20-ton Morse Boulger.

Fly-Ash Removal with Gravel Filter

NEITHER soot nor fly-ash is a problem in the municipal refuse incinerator at Beverly Hills, Calif. This city has effectively controlled this nuisance by the installation of the unique Lynch filter.

This filter, in operation since 1936, gets rid of the soot and fly-ash by forcing the gases of combustion through specially designed filter cells of perforated metal filled with gravel. Thus, the objectionable particles are removed automatically from the smoke and deposited on the gravel while a power-driven suction fan pulls the gases through the filter to the incinerator stack.

To facilitate cleaning the filter when it has been clogged with ashes, it has been equipped with Link-Belt mechanical handling machinery. This reclaims the gravel, screens it, rejects the loose dirt, and returns the cleaned gravel to the filter.

To confine dust, all equipment operates within steel enclosures. A 3 hp motorized speed reducer operates everything.

The Lynch filter is a patent of George E. Lynch, Consulting Engineer. William R. Metz is City Engineer.

—From *Link-Belt News*.

Refuse Incinerator at Rocky Mount, N. C.

Rocky Mount, N. C., replaced an unsightly city dump with this efficient Nye Odorless refuse incinerator. The unit has two 60-ton furnaces; it was built in 1941 at a cost of $80,000. Refuse is collected twice a week in business districts. The work is under the Street Department. N. C. Pitt is Superintendent of Streets.

M-4 MILITARY TRACTOR

Cooperating with the Army Ordnance Department, Allis-Chalmers Tractor Division designed and is building M-4 Military Tractors.

"FUSTEST WITH THE MOSTEST"

Carrying on in the legendary tradition of Lt. Gen. Nathan Bedford Forrest, Allied military commanders today are "gittin' thar fustest" with their big guns to smash enemy resistance.

New, track-laying M-4 Military Tractors enable our Field, Coast and Antiaircraft Artillery to accelerate the sizzling pace of mechanized warfare. Where in previous wars men and mules tugged and strained to pull heavy guns into position . . . now these powerful "battle-wagons" have taken over. They look like giant steel bugs, race with the speed of trucks . . . have the pulling power of track-type tractor — haul the heaviest artiller over shell holes and ditches . . . through loose san or muck and mud . . . up mountainous hillsides

This new weapon of movement not only pull the artillery but carries the gun crew of eleve men and initial rounds of ammunition, is equippe with a machine gun, ammunition compartment shell hoist and towing winch.

Built for combat service, the M-4 is a develop ment of the coordinated effort of the Army Ord nance Department and the Allis-Chalmers Tracto Division organization. It is a tool we are might proud to place in the hands of our armed force . . . for it helps give United Nations' righting me the important advantage of getting there fir with superior fire power.

ALLIS-CHALMERS

TRACTOR DIVISION • MILWAUKEE, U. S. A

Public Safety

U. S. Army Fire Fighters

ARMY fire-fighting platoons, with modern American trailer-pump units are now moving in alongside British fire-fighting units. Trained at Camp Pontchartrain in Louisiana, the new contingents are equipped to combat incindiary, gasoline, oil, airplane, and structural fires.

The platoon consists of 28 enlisted men and one officer, the fire marshal. A staff sergeant is fire-chief and second in command; a motor sergeant is in charge of the machinery and vehicles; and the headquarters is completed by a jeep driver who also acts as general replacement man and company clerk. The remaining 24 men are split up in four 6-man fire-fighting sections. Three sections operate trailer pumps each hauled by a 1½-ton, 6 x 6 (6-wheel drive) Dodge personnel carrier. The trailer pump is a single-stage centrifugal operated by a 95-hp Chrysler 6-cylinder gasoline engine.

Three hundred feet of 1½-inch hose and 400 feet of 2½-inch hose are carried on the floor of the truck. In addition, the truck carries two 1-gallon CTC (carbon tetrachloride) extinguishers with a built-in pump to maintain pressure at 100 pounds, a 2-gallon foam extinguisher which multiples to 16 gallons of foam; 100-feet and 50-feet lengths of ¾-inch rope for pulling up hose for rescue work; 4 axes; a fireman's wrecking bar; 2 electric lanterns; and a 24-unit first-aid box, each unit containing bandages, eye dressing, burn compound. Additional equipment usually carried in the trailer are 400 feet of 2½-inch hose, a 54-inch gooseneck bar, and two 5-gallon Indian fire pumps to fight small fires in the vicinity of the main fire.

In action, each trailer pump has a section leader, a pump operator, 2 men on the hose and 2 at the nozzle or nozzles. The truck driver becomes a fireman as soon as the fire is reached. All men are trained to perform all functions and the hose men relieve the nozzle men whenever necessary.

The fourth section of the platoon is trained in the use of the new "Class 325" combined single-unit 1½-ton truck-and-pump. The pump is operated by the same engine that drives the truck. On the truck is a 300-gallon booster tank for water. There are two 1-inch outlets from this tank with reels of hose attached so that water can be played on the fire until the regular hose is made ready. In addition to these two outlets, the pump has two 2½-inch outlets like the ordinary trailer pump, and each of these can be divided into two 1½-inch hose lines. Five hundred feet of 2½-inch hose are on top of the truck.

Type of trailer-pump unit used by U. S. Army fire-fighters abroad

This truck, as well as the trailer described earlier, has special fog nozzles available for fighting gasoline and oil fires. Two walls of fog are projected over the fire in a wedge shape and smother the fire as they move into it.

Police Equipment in 25 Virginia Cities

IN preserving law and order and rendering aid to those in distress, the personnel of a police department must be equipped to act when and where its action is most needed. The less time elapsing between the occurrence of a crime or an accident may mean the greater chance of saving a life, apprehending a criminal, or securing needed evidence. In police work, time is the essence.

Time is saved by transportation and communication equipment. All of the city police departments in Virginia are motorized, reports the League of Virginia municipalities. Twelve police departments use two men per cruiser, five use one man, and two use one man in the daytime and two men at night. The State Police use one man in their patrol cars. Several of the police chiefs using one man in their cars do so because of lack of manpower; others believe that one man can do a better job of ordinary patrol work than two.*

Closely tied in with the use of motor equipment is the problem of communications. If motor equipment is to be used effectively, close contact must be maintained between police headquarters and the men in the motor units by modern two-way police radio. Teletype communication with other localities in the state is desirable.

Most of the Virginia cities with radio facilities send out the messages over their own transmitters. Portsmouth and South Norfolk, however, use the Norfolk transmitter, and Arlington County uses the Washington, D. C., transmitter. Neither Norfolk nor Washington, D. C., charge for this service. Motorcycles as well as automobiles should be equipped with two-way radios.

Eleven cities furnish both uniforms and guns, two furnish uniforms but no guns, six furnish guns but not uniforms, and three furnish neither.

*The controversial subject of one or two officers in a patrol car was discussed in the June, 1942, issue of THE AMERICAN CITY.

New Fire Alarm System

PERSONS reporting fires in Arkadelphia, Ark., are asked to give the street intersection nearest the blaze, state whether it is a grass, garage, or building fire and tell how far advanced the fire is. If the chief knows to what intersection he is going, he won't pass up the necessary fire hydrant en route, and if the blaze is only a grass fire, he won't have to stop at a hydrant at all because the fire wagon carries sufficient water to extinguish small fires.

Stop--and Check

Please check over the following list of interesting catalogs obtainable free of charge and either write direct to the manufacturers for their literature, or, if you prefer, put a circle around the identifying numbers below to indicate the catalogs you want, mail this coupon to The American City Magazine, 470 Fourth Ave., New York 16, and we will see that catalogs are sent to you without expense or obligation on your part. 4/44

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Name _____ Position _____

Address _____

Money Raising Campaigns

112. If you have a hospital or any other organization in your city which is in need of money for enlarging its buildings or facilities, you can secure interesting printed matter and suggestions by writing to The American City Bureau, 221 N. LaSalle St., Chicago 1, Ill. The American City Bureau also specializes on community and war fund money raising campaigns, as well as on the raising of funds for Chambers of Commerce and educational institutions.

Uses for Calcium Chloride

113. The "all-purpose" folder being offered by Solvay Sales Corp., 40 Rector St., New York 6, N. Y., will be of assistance to municipalities to show them the many uses for calcium chloride. It describes how calcium chloride may be used for: concrete, fire protection, ending dust and weeds, thawing and skidproofing ice, drying air and gases, and weighing tractor tires with non-freeze solution.

Equipment for Sanitary Fill Method of Garbage Disposal

114. An interesting folder is being offered by the Hi-way Service Corp., 3841 W. Wisconsin Ave., Milwaukee 8, Wis., entitled "Answer to Your Waste Disposal Problems" and showing the use of the Drott bull-clam shovel for sanitary fill work. You will find photographs and data to illustrate the advantages of this method of waste disposal and the operation of the bull-clam shovel in the work of compacting the refuse.

Exhibit Cases Help Public Relations

115. Municipalities which make a point of exhibiting items of interest to their citizens will want the proper exhibit cases. Fully illustrated literature is available from the Museum Case Division of The Michaels Art Bronze Co., Inc., Covington, Ky.

Discover the Facts on Black-Top Streets

116. A new booklet prepared by E. D. Etnyre & Co., Oregon, Ill., is aimed at aiding municipal officials in the preparation of post-war plans for road, street, and airport construction. In a brief and concise form the booklet presents figures and facts that you will want on hand when you start to formulate your plans. A table giving the estimated mileage of roads and streets and alleys in the United States (by types) at the end of 1941; a group of figures recording 10 years of road building in the United States; facts and figures on approximate construction costs; and maintenance costs per square yard over a 10-year period, all are prepared to arm you with data to use as a background for your planning.

Do You Need Fencing?

117. A free 32-page book on fencing is available from the Cyclone Fence Division, American Steel & Wire Co., Dept. No. B-44, Waukegan, Ill. This illustrated booklet gives facts and specifications on fencing for all purposes.

Assistance from Testing Laboratories

118. The United States Testing Company, Inc., Hoboken, N. J., will send you free of charge a copy of their new booklet "New World." This interesting brochure has been planned to show you just what a testing laboratory and its scientific data can do to help solve your problems in the post-war world.

Sweepers for Street Work

119. Street maintenance officials may secure descriptive literature from The Frank G. Hough Co., Libertyville, Ill., on their line of street sweepers. Illustrations show the various models available and detailed information gives you the facts on their construction and workings, and lists specifications.

Gate Valve Operation Made Easy

120. Here is a machine that takes the drugery out of gate valve operation. Interesting literature available from Payne Dean & Co., Laconia, N. H., discusses the Dean valve operator, easily mounted on any truck, that enables you to open and close rapidly the largest of gate valves with ease and safety. Experience of water departments now using the equipment indicate a savings of at least 90 percent in time.

Swimming Pool Designs and Consultation

121. A 50-page pamphlet, actual pool pictures, and other data having to do with types, sizes, and costs are available from Wesley Bintz, Consulting Engineer, 215 Spencer St., Lansing 15, Mich., on the unique type of swimming pool he has developed. If your community is discussing the subject of swimming pools for your post-war city, this information will show you the advantages of the Bintz pool over the sunken pool and the rectangular pool, and the savings it effects.

How to Choose Correct Protective Paint

122. Two new informative folders entitled "Bitumastic Blacks" and "Bitumastic Visual Index" have been issued by Wailes Dove-Hermiston Corp., Westfield, N. J. Both should have wide interest to municipal officials responsible for the maintenance of water, sewage and other utilities. The "Bitumastic Visual Index" gives an over-all analysis of the right type of protective coating for practically every conceivable purpose. Water storage tanks, pumps, motors, boiler stacks are only a few of the subjects touched. "Bitumastic Blacks" gives specific details regarding individual protection solutions.

Equipment for Chlorination of Water

123. Water-works officials will be interested in Bulletin No. 77 of the Chem-Feeds, Inc., 77 Reservoir Ave., Providence, R. I., discussing their line of chlorinators and chemical solution feeders. Drawings and data are included showing the innovations embodied in the Var-I-Feeder equipment, and discussing in detail the various features of the equipment.

Easy-to-Operate Automatic Calculators

124. Municipal accounting work may be greatly assisted by the use of a Marchant silent speed electric calculator. Details are available from the Marchant Calculating Machine Co., Oakland 8, Calif., on the features of the machine, and showing the many problems it can solve both complicated and the simple ones of addition, division, and multiplication. A complete dial proof of correctness is one of the interesting features of the machine.

Street Maintenance Work

125. Street and highway officials may obtain a catalog from the Connery Construction Co., 4000 North Second St., Philadelphia 40, Pa., discussing their full line of tar and asphalt heating kettles, spraying attachments, pouring pots and other equipment useful in street maintenance and repair work. One item that may be of especial interest is their heating kettle that comes in sizes of 50, 80, 110, and 165 gallons.

Locating Underground Leaks

126. Underground leaks that can go undetected in your water works system for long periods of time may be easily located by the use of the Globe Geophone. The Globe Phone Mfg. Corp., Dept. H, Reading, Mass., will send you data on this equipment discussing its principle of construction, operation, and telling just where and how it may be used to gain the best advantage for your community.

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Check This Column—and Use Coupon on Page 18

(Continued from page 18)

Flags and Honor Rolls

127. Have you been putting off securing for your community, honor rolls or various kinds of flags? American Flag & Banner Co., 127 N. Dearborn St., Chicago 2, Ill., will send you illustrated catalogs—No. FAC on flags, and No. AC on honor rolls, giving you detailed information so that you may chose the type best suited to your needs.

Coagulant for Water and Sewage Treatment

128. Ferri-floc for use in water or sewage-treatment plants is still available to help solve your coagulation problems. The Tennessee Corp., Atlanta, Ga., will send you details discussing the work of this product and give you actual case histories illustrating its use.

Water Works Pumps

129. Pomona Pump Division, Joshua Hendy Iron Works, Pomona, Calif., are ready to send you detailed literature that will aid you with your pumping operations. Discussing the Pomona line of water works pumps, data are given pointing out the advantages to be gained, particularly the saving of space and power and the elimination of priming.

Diesel Engines for Electric Power

130. Superior Engine Division, The National Supply Co., Pittsburgh, Pa., is offering municipal plant operators the engineering advice and data of the corporation to assist you in securing the best performance from Superior diesels in your plant. Stationary units range from 31 to 1,160 hp, and generator sets from 12½ to 770 kw.

Repair Parts for Street Lighting Standards

131. The Line Material Company, Milwaukee, Wis., will supply street department maintenance men with data on replacement parts for broken globes, reflectors, receptacles, sockets and other vital units. The company asserts that L-M replacement parts fit all standard types of street lighting equipment.

Photo-copy Your Important Work

132. Through a machine that photocopies identically anything written, printed, or drawn, and in actual size, it is possible for your municipal offices to get work done in a minimum of time and with the least amount of help. Literature from the American Photocopy Equipment Co., 2849 N. Clark St., Dept. EB-34, Chicago 14, Ill., discusses this machine, its operation, its performance, and the results it obtains.

Valves Instead of Extra Operators

133. Valves designed and built by the Golden-Anderson Valve Specialty Co., Fulton Bldg., Pittsburgh, Pa., enable you to have complete control over the operation of overhead storage tanks in remote localities. Various arrangements and designs are available. Write to the company for full specifications to fit your particular problem.

Fire Pumps

134. Bulletin 75-A published by the American-Marsh Pumps, Inc., Battle Creek, Mich., will give fire department officials full details on the front-mounted centrifugal fire pumps. These pumps may be obtained to fit any standard chassis. They are available in sizes up to 600 gpm at conventional Underwriters' pressures and also for high pressures to 600 pounds for fog nozzle work.

Street Markers for the Future

135. You may secure from the Meili-Blumberg Corp., New Holstein, Wis., literature on their street and road markers. Though this equipment will not be available 'till after the war, nevertheless descriptive literature may assist you in planning traffic routes for the post-war era.

How Pumps Battle the Axis

136. Highly interesting is the well edited booklet that is being distributed by the Peerless Pump Division, Food Machinery Corp., 301 West Ave. 26, Los Angeles 31, Calif., illustrating how this company's pumps are going to war. In every activity from submarines to airplanes and in every branch of service these pumps are finding a vital place.

Water Softeners

137. The important features in the design of zeolite water-softener installations is presented in Bulletin Number 36 issued by the Lakeside Engineering Corp., 222 West Adams St., Chicago 6, Ill. This includes a discussion of the process of softening water, the various types of zeolites, factors for converting ingredients in water to calcium carbonate, and lists important items to be considered in the selection of a water softener. The important features of the Lakeside softeners and their specifications are included.

Water Purification Equipment

138. Bulletin No. 6971 issued by The Dorr Co., Inc., 570 Lexington Ave., New York 22, N. Y., will be of especial interest to water-purification plant operators. This booklet touches briefly on the mixing and flocculation practice and describes the construction and operation of the Dorrco Flash Mixers and Flocculators. Also discussed are the workings of the equipment, size, advantages, and savings thus effected.

Prevention of Accidents

139. All municipal officials should have the comprehensive booklet published by the Lamp Dept., General Electric Co., Nela Park, Cleveland, Ohio, entitled "On the Job Accidents." This contains suggestions for the reduction of accidents on dimmed-out streets without the necessity of expanding or improving street lighting systems which is not possible now except in a minor degree.

Fire Hose Dryer

140. You don't need so much hard-to-get fire hose if you use Circul-Air Fire Hose Dryer. This electrically operated dryer does its work in a few hours leaving the hose ready for use, and thus eliminates the need for large reserve stocks. Literature published by The Circul-Air Corp., 303 Dwight Bldg., Jackson, Mich., gives in detail the workings of this dryer.

All About Water Meters

141. Literature is available to water-works officials on the American and Niagara water meters manufactured by Buffalo Meter Co., 2902 Main St., Buffalo 14, N. Y. This printed matters gives you full description of the meters, their durable working parts, and their long-lived construction.

The Latest on Street Maintenance

142. The Barrett Division, Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y., invites you to consult with their field men if you have street maintenance work to be done. Tarvia will help you repair or maintain almost any type of pavement.

Air Compressors and Paving Breakers

143. Portable air compressors and paving breakers feature the new equipment folder, Bulletin M103-6043, recently issued by the Sullivan Machinery Co., Michigan City, Ind. Of chief interest to municipal officials the Sullivan Zeph-Air Compressor, a heavy-duty portable unit that is mounted on a trailer and can be easily transported to the scene of the work. Both large and small sizes also are included in the bulletin along with paving breakers, spaders, and trench diggers.

Keep Your Sewers Cleaned Out

144. To help you in your sewer cleaning problems, secure printed matter from the Flexible Sewer Rod Equipment Co., 9059 Venice Blvd., Los Angeles 34, Calif., on their Ezy Rod Reel and the Power Drive, for cleaning out your system and keeping it in good working order.

Pipe Installation Data

145. Lead Products Division, American Smelting and Refining Co., 120 Broadway, New York 5, N. Y., are offering to water-works officials a copy of a new 32-page booklet on how to install Asarco Type K Tube-Loy pipe. Stressing the point that your best service comes from a good installation, the company has compiled this booklet discussing installations with various type joints and fittings; bending technique; making up water service connections; and other general information to help you meet unusual installation conditions.

Opposed Impeller Boiler Feedwater Pumps

146. The Opposed Impeller Series pump is the subject of Catalog B-3, issued by the De Laval Steam Turbine Co., Trenton 2, N. J. It contains a discussion of the features of this type pump, as well as details on the various parts and how they work to bring you efficient service.

Street Flushers

147. Bulletin No. TT639 is available from The Heil Co., Milwaukee 1, Wis., discussing the outstanding features of the Heil street flushers. This pamphlet contains a discussion of the construction of the equipment, lists services it performs, and gives operational details on the spray and other features of the equipment. Flusher tanks are available on appeal to the WPB.

Pumps, Fire Hydrants, and Gate Valves

148. Manistee Iron Works Co., Manistee, Mich., are offering to water-works officials bulletins on centrifugal pumps, fire hydrants, and gate valves. If you are interested in single stage, double-suction pumps from 75-20,000 gpm capacity or multi-stage pumps, 50-3500 gpm capacity with heads up to 1600 feet, write for your literature.

(Continued on page 22)

Main Cleaning Pays!

Picture No. 1: This is the *National Water Main Cleaning Machine* emerging from the riser pipe, bringing with it a big load of tubercles and other deposits on the pipe lining which have been causing that reduced water pressure.

Picture No. 2: This is the gush of water issuing from the riser pipe immediately after the machine emerges.

Picture No. 3: This shows the flow of water after cleaning —with pressure restored to normal.

Write for circular on Water Main Cleaning.

The National Water Main Cleaning Co.

30 Church Street **New York 7, N. Y.**

BRANCHES

115 Peterboro St., Boston 15, Mass.
910 William-Oliver Bldg., Atlanta 3, Ga.
205 W. Wacker Dr., Chicago 6, Ill.
3812 Castellar St., Omaha 5, Neb.
7103 Dale Ave., St. Louis 17, Mo.
3707 Madison St., Kansas City 2, Mo.
2028 Union Ave., Montreal, Can.
576 Wall St., Winnipeg, Can.
P. O. Box 683, Jacksonville 1, Fla.

CHECK THIS COLUMN AND USE COUPON ON PAGE 18

(Continued from page 21)

Provide Palatable Drinking Water

149. Literature is available to water-works superintendents from Industrial Chemical Sales, Division of West Virginia Pulp & Paper Co., 230 Park Ave., New York 17, N. Y., on Aqua Nuchar Activated Carbon. Details point out how this product can be used in your water supply to help remove objectionable tastes and odors. The company states that supplies of the product are immediately available.

Diesels for Power Plants

150. If your municipal power plant figures in your post-war planning, you may receive from Nordberg Mfg. Co., Milwaukee 7, Wis., data on Nordberg diesels that will assist you when preparing for future installations.

Valves for Water and Sewage Plants

151. The Iowa Valve Co., Hubbell Bldg., Des Moines, Iowa, invite you to write for catalogs and information on their valves for water-works and sewage-disposal equipment. Details are also available on their "Corey Type" hydrants.

Hydrants with Durable Qualities

152. If fire hydrants are a problem in your community, you should secure literature from the Eddy Valve Co., Waterford, N. Y. Their catalogs describe the Eddy hydrants. Prominent among its advantages is its feature of being replaced in a few minutes if damaged; no water will be lost if the standpipe is broken, and the hydrant is frost-proof.

Basement Meter Settings

153. Though the equipment is not available now, the Ford Meter Box Co., Wabash, Ind., will send you a catalog on the Ford Copperhorn to help you make room for this equipment in your post-war plans. This equipment, the company asserts, makes the very best water meter setting for most basement installations.

New Life for Street Sweeping Brooms

154. The Otto Gerdau Co., 82 Wall St., New York 15, N. Y., will supply you with data on their fibres for your mechanical sweepers. They are ready to meet every need of street departments who demand fresh fibres for the refilling of broom cores.

Cast-Iron Pipe and Fittings

155. Catalogs are available from Warren Foundry and Pipe Corp., 11 Broadway, New York 4, N. Y., that will give you details describing construction, sizes, handling qualities, and other important factors on their spun centrifugal pipe, threaded cast-iron pipe, castings, fittings, and other products used in water-supply lines.

Portable Compressors

156. Information on Gardner-Denver water-cooled portable compressors will be furnished you by writing Gardner-Denver Co., Quincy, Ill. Literature describes the workings of these compressors and their various parts, and, by means of illustrations, shows the various mountings.

About Iron Cased Water Meters

157. Bulletin N-308 of the Pittsburgh Equitable Meter Co., Pittsburgh, Pa., will give you complete details on their Empire victory water meter. It discusses the design and benefits that the iron case furnishes, the advantages and details of the glass register box, and many other interesting features of this equipment.

Equipment for Water or Sewage-Treatment Plant

158. Do you need information on water and sewage-treatment equipment? Infilco, Inc., 325 West 25th Place, Chicago 16, Ill., will supply you with bulletins on equipment such as accelators, aerators, chemical feeders, clarifiers, filter-plant equipment, and water softeners. All are well illustrated and full of pertinent information.

Service Flags and Honor Rolls

159. If you community is planning to honor its service people, illustrated literature is available from the Regalia Mfg. Co., Dept. 84, Rock Island, Ill. Their service flags and honor rolls come in any size or material that you would desire.

Improved Street Equipment for Post-War Work

160. You can take advantage of the knowledge that Allis-Chalmers, Tractor Division, Milwaukee 1, Wis., has gained through its intensive war-production program, and learn about the new war-developed, flexible, easier-to-handle equipment. This company recommends an early discussion of your coming street equipment needs with your Allis-Chalmers dealer.

(Continued on page 24)

CHLORINE BRINGS PROTECTION when AMG takes over

As combat troops advance beyond captured territory, specially trained officers and men move in and take over civilian administration. This is AMG . . . Allied Military Government of occupied territory . . . which includes in its multitude of duties the sanitation of potable water.

After the landings in Sicily and Italy, AMG took control of the water and with the aid of chlorine provided quick protection against water-borne disease.

Chlorine and its compounds are playing many an important role in war sanitation . . . Not only are they used for purifying water at the front and in training camps—but they serve also as bactericides for the medical and dental corps—they are used in laundries for bleaching and disinfecting—in footbaths they protect against common fungus infections.

For these urgent and vital needs Penn Salt supplies much of its present expanded output of chlorine chemicals. That means, possibly, that we cannot fill your order for customary peacetime amounts. However, our wide wartime experience in this field and our increased facilities will be put wholeheartedly at your service as soon as Victory is won.

PENN SALT MANUFACTURES
Liquid Chlorine
for water sanitation and sewage treatment

ALSO
Perchloron* • Anhydrous Ammonia • Filter Alum
Ferric Chloride • Sodium Aluminate • Chloride of Lime
Caustic Soda and other products

*Trade-Mark Reg. U. S. Pat. Off.

PENNSYLVANIA SALT
MANUFACTURING COMPANY
Chemicals
1000 WIDENER BUILDING, PHILADELPHIA 7, PA.
New York • Chicago • St. Louis • Pittsburgh • Minneapolis • Wyandotte • Tacoma

SOFT WATER

Oh Boy...

A Post-War MUST For Your City!

Soft, iron-free water for sudsier baths, better shaves, cleaner washes, and remarkable savings on soap and cleaning compounds.

Soft water is

A POST-WAR MUST FOR YOUR CITY

A MUST because it can do so much toward the happiness and prosperity of your citizens. Put it in your plans now for a better post-war city.

Refinite conditioned water is now enjoyed by many municipalities throughout the country . . . and Refinite laboratory and technical experts will gladly discuss your water problem with you . . . will show you how your city, too, can have soft water, economically! Write Refinite. There's no obligation.

"Conditioned Water—An Investment that Pays for Itself!"

The Refinite Corporation

Write for Free Catalog

109 Refinite Building Omaha, Nebraska

CHECK THIS COLUMN AND USE COUPON ON PAGE 18

(*Continued from page 22*)

Clearly Visible Bonnets on Water Meters

161. Hersey Mfg. Co., South Boston, Mass., will send you a circular discussing their iron-case water meters with magni-vision all-glass bonnet. Literature discusses the construction features of this meter and the Magni-Vision bonnet. You will find all interior parts are interchangeable with the interior parts of bronze case meters that were previously manufactured.

Timber Construction Data

162. Municipal officials who wish to study the subject of timber construction will be interested in the information available from the Timber Engineering Co., Washington, D. C. They offer complete data on all phases of timber design, and can supply designs of typical Teco Timber structures.

Chemical Feed Equipment

163. Chemical feeders for use in your waetr-works or sewage-treatment plant is the subject of Bulletin SAN-1 issued by Proportioneers, Inc., 99 Codding St., Providence, R. I. Covering the company's line of sterilization equipment this bulletin briefly covers descriptions of the models, specifications and uses for which they are best suited.

Increase Capacity of Mains by Cleaning

164. You may secure literature from the National Water Main Cleaning Co., 30 Church St., New York 7, N. Y., that will help emphasize the importance of clean water mains. This contains a discussion of what the method entails and the equipment used, and lists results obtained in various municipalities.

One-Man Rock Spreader for Street Improvements

165. Data are available from The Flink Co., Streator, Ill., that will assist you in meeting some of your manpower troubles. The Flink one-man spreader used for the distribution of all granular material up to 1 inch wet or dry fits all standard dump trucks and is operated by the driver of the truck, thus allowing you to perform vital ice-control and seal-coating work in spite of labor shortages.

Water Supply Pumps

166. Water-works superintendents will want a copy of the bulletin being offered by the Morris Machine Works, Baldwinsville, N. Y., on their double-suction horizontally-split pumps. Details of construction and typical installation data will help you decide their worth in your system. They are built in single and multiple stages for all capacities.

Plan Your Pipelines Now

167. If your post-war plans include the laying of new pipelines why not look into the centrifugal Mono-Cast pipe manufactured by the American Cast Iron Pipe Co., Birmingham 2, Ala., which is manufactured according to A.S.A. law of design and other specifications.

Cross Connections That Are Safe

168. A bulletin issued by the Industrial Interconnector Co., 2150 Niagara St., Buffalo 7, N. Y., will give complete details on the Sure-Shift Interconnector that makes it possible to interconnect a potable with a non-potable supply safely. The folder discusses the design of this valving mechanism that will deliver water from either of two inlets to a common outlet, and shows how contamination dangers are eliminated. The company points out that it meets the requirements of the New York State Department of Public Health.

Learn About These Fire Hydrants

169. Fire hydrant data may be secured from M & H Valve and Fittings Co., Anniston, Ala. The distinctive feature of this company's hydrant is in its protective design. By constructing it to yield at the ground line under impact, they have produced a hydrant that is easily and inexpensively repaired. All that is required is to furnish a few bolts and couplings for the stem.

Good Valves Improve Water-Distribution Systems

170. You may obtain literature from the Ross Valve Mfg. Co., Inc., P. O. Box 596, Troy, N. Y., on their automatic valves for your water-distribution system. Details on the surge-relief valve, protecting against excessive pressures; the altitude valve, single or double acting, preventing overflow; and the reducing valves, regulating pressures are available with descriptions of how they will fit your particular system.

Three-in-One Asphalt Street Maintenance

171. Catalog material will be furnished by Littleford Bros., Inc., 500 E. Pearl St., Cincinnati, Ohio, on their Model No. 101 Utility Spray Tank. A discussion of the equipment shows that it is three units in one. Its spray bar is for your small applications, the hand spray will do your patch work, and the pouring pot outlet is for crack filling. Write for further details on this utility tank.

Vol. LIX, No. 4 The American City April, 1944

Omar Khayyam and the Future City

. . . "Could thou and I with Fate conspire
To grasp this sorry Scheme of Things entire,
Would not we shatter it to bits—and then
Re-mould it nearer to the Heart's Desire!"

With this quotation from Edward FitzGerald's translation of "Omar Khayyam" as a text, THE AMERICAN CITY has asked the past-presidents of three leading organizations in the community planning field to state briefly what kind of cities they would build if they had the power to do so. The organizations selected were the American Society of Planning Officials, American Planning and Civic Association, and American Institute of Planners.

The first installment of replies appears on this and the next two pages.

Putting First Things First in Urban Redevelopment

By BENJAMIN H. KIZER

Chairman, Washington State Planning Council
Past President, American Society of Planning Officials

IF in the words of the poet we could "grasp this sorry scheme of things entire," we should be obliged to alter much more than the physical scene. We must first have city land-owners who find their long-run advantage through wise change and improvement preferable to the short-run advantage in holding their property to its present pattern of slow decay and obsolescence.

Needed: A Rational Tax System

To win this change in self-interest from contentment with decay to support of the needed replanning, it is indispensable that we decisively alter present methods of revenue raising in our cities and increase the revenues. As it now is, taxes are in the forefront of the landowner's consciousness. And, the more decayed the neighborhood, the lighter the taxes, in order to make it easier for the owner *not* to improve his property.

This is exactly the reverse of what we need. We can therefore best advance the long-term increasing usefulness of cities to their citizens by the adoption of a property tax resting on land values alone, that is substantially equal to the economic rent, which is in itself a social value created by the many thousands who live in the city, and of which they should have the benefit. This exemption of improvements from taxation, when accompanied by zoning restrictions to prevent congestion, will induce men by economic pressure to devote their land to its best use rather than to its worst.

But the city cannot adequately function from taxation of property alone. A substantial part of the revenue from city dwellers collected by the state from taxes of gasoline, sales, or gross or net income should be returned to the cities, that they may more adequately discharge their duties to their citizens. A few states (Washington is one) have already adopted this course.

Until this basic revenue problem is wisely solved, planners will plan, and their plans will gather dust on shelves.

Tackling the Traffic Problem

The two most critical problems facing our cities are traffic and rebuilding. We can make our best beginning with traffic, I believe, if we first create a rectangular loop of wide streets around the heart of the down-town business district, forming a by-pass for through traffic. From each of the four corners of this loop, an express highway or freeway should lead out directly to the boundaries of the city, to connect with the major state highways coming in from each of the four directions. Indianapolis is a good example of the contribution such planning can make to the satisfaction of traffic's needs in coming into and through the city.

Adequate off-street parking for the down-town and each neighborhood business district should be provided, so that no car need use streets for parking. In short, every device that the wit of man can invent should be used to the full to see that traffic moves without congestion, safely and as directly as possible to its destination. The motor car has revolutionized our requirements of the modern city, but we have made little progress in fashioning our cities to meet its needs.

Rebuilding

As to rebuilding, the subject is so complex and so much has been said of it that within these limits I make no attempt to express views. I content myself with saying that, of the various publications concerning it, the one that best helps me is the concise pamphlet by Guy Greer and Alvin H. Hansen, published in December 1941 by the National Planning Association, entitled "Urban Redevelopment and Housing." Its fruitful proposal that, to start nation-wide replanning and rebuilding on a sound basis, one urban community should be singled out for immediate demonstration seems in a fair way of accomplishment, through the combined efforts of the alert citizens of Syracuse, N. Y., in association with a

staff of national specialists in city planning, sponsored by *Fortune*. If present plans for Syracuse are carried out, we are in a fair way to learn much more about what is possible in replanning our cities than any of us now know. If they are *not* carried ried out, we shall have one more demonstration that city tax reform must precede any large-scale city rebuilding.

The second installment of this symposium on "Omar Khayyam and the Future City" will appear next month.

To Grasp the Opportunities Afforded in Post-War City Planning

By LAWRENCE V. SHERIDAN
Colonel, Corps of Engineers, Army of the United States
Past President, American Institute of Planners

IN view of the intense interest of the public towards post-war planning of every kind, it is essential that principles of city planning applicable to the post-war effort be clearly understood and enunciated. Otherwise the worthy efforts of planners may perpetuate some of the undesirable aspects of our cities and fail to grasp the opportunities afforded by the post-war program. The enthusiasm to get things started should not be permitted to overweigh the valuable results attainable by a carefully thought-out plan for each city.

It is fundamental that there are infinite ways in which any city may be planned. It is archaic to believe that there is only one right plan for each community. Therefore each city planning authority can approach the development of its plan without fear, if sound basic principles of planning are followed. But it is essential that a comprehensive plan be prepared, have overwhelming approval of the varied elements of the community, and be used intelligently as a guide for action under the post-war program.

Rigidity and Flexibility

The most practical plan would be composed of both rigid and flexible elements. To avoid the serious traffic problems which have confronted cities and to promote safety and convenience, the plan for major streets should be essentially rigid. The major street plan should include both the presently occupied city and its environs. The location and alignment of major streets should be projected in a manner which will divide the city into well-defined units of sizes permitting economical development for appropriate community uses. The size and character of the development units will depend upon topography and type of use. In residential areas the 160-acre, or quarter-section, tract is most desirable, but the exact size will be influenced by topography. Likewise, in level country many of the streets will follow quarter-section lines, but in irregular topography their alignment will follow economical grades and curves. In the older portion of the city, where redevelopment is required, the units will be smaller, but in every instance the development unit will be bordered by major streets. Normally, commercial uses should be located at the intersections of major streets. Capacities of major streets should be planned and adhered to, and provisions should be made for traffic separation and movement with maximum convenience and safety.

The design and treatment of each development unit should be flexible. Each unit should provide residential sites and adequate open area for recreation, schools, and public use. Streets should be arranged to provide convenient access, but to discourage traffic hazards. The cul-de-sac street and the central open area, rather than scattered small parks, are desirable. Internal collecting streets, paralleling the major boundary streets, into which neighborhood streets will open, are essential. The collecting streets should deliver traffic to the major streets at only a few points, preferably at intervals of one-quarter to one-half mile, so as to promote safety and rapid traffic movement.

Progressive Redevelopment

The redevelopment of older portions of the ctiy would follow the same principles. In such units obsolete structures may be torn down progressively and replaced by new arrangements of internal streets and lots in conformity with a well-thought-out plan.

To accomplish worthwhile post-war development it is essential that each unit be progressively developed during a period of time of varying length. Profits will be low at the start in most instances. This will require some public financial assistance, to tide over the period of low or no profits. The form of this assistance should be designed to promote private enterprise; otherwise, our cities will likely become stereotyped, dull, and uninteresting.

The adoption of basic city plans, establishing the alignment and capacity of major streets and the division of the city into logical development units; the preservation of topographical appropriateness in the formulation of the plan; the designation of outstanding fundamental recreational features; the spontaneous, flexible design of development units in accordance with the principles of safety and convenience; and the provision of public assistance during development so as to promote courageous private enterprise, will assure beneficial results from the post-war program.

To Promote Things Clean and Decent, With Opportunity for All

By J. HORACE McFARLAND
Past President, American Planning and Civic Association

BECAUSE the American Planning and Civic Association (née American Civic Association) was born in St. Louis just 4 years ago, when all the dreams we had were dreams only, and so much has happened since to make them come true or begin to come true, I more gladly begin to dream again.

On the momentous day when the American League for Civic Improvement and the American Park and Outdoor Art Association were married to produce promptly the American Civic Association, the interested group were conducted about St. Louis by the then Park Commissioner, very good-humored, quite bibulous, and wholly political. After he had spent a long day showing what there were of parks in St. Louis (wholly below the standards even of that day), he brought us back to the hotel from which we had started. After the many visits he had made to incidental life-saving stations on the way, not usually with much participation by the assembled city-

betterment group, he expressed himself something in this wise:

> "By God! you folks have got something, and I'm going to get some of it!"

Looking Backward 40 Years—and Ahead 40 Years

He took our dreams quite seriously. If I might look ahead another 40 years, I would not materially change the ideals we all held in 1904 in St. Louis. We wanted recreation facilities of some sort within a quarter-mile reach of every inhabitant. The park places we dreamed of would be beautiful, well planted, but primarily well equipped in two broad categories. We wanted adequate recreation space, stimulating all physical activities that would help make better citizens, but we also wanted rest spots for those who could not longer indulge in strenuous physical activities. Our park dreams of 1944 would include these two ideals primarily, and of course insist on clean living in clean air for all workers.

But meanwhile our horizon has been immensely enlarged. We want our national parks made accessible, but not too accessible. While Yosemite and the Yellowstone and Glacier Park are to have roads and trails to admit everyone, there must be some of wild natural America left. King's Canyon National Park must never have roads, and some reaches of the Yosemite must be left for the hardy hikers who would follow the example of the Sierra Club of California with pack saddle and no other transport save human legs. We dream of the Grand Tetons and of the country not proper for roads within the Jackson Hole National Monument. We want something left of wild America north, south, east, and west.

Attainable Ideals

Our dreams, to continue, desire that citizens of great cities shall breathe air less contaminated with smoke and city dust. We cannot spread the population into the open country if we would; but, if we are honest with ourselves and toward God, we can provide the things clean and decent in water, air, and the opportunity to live and advance while earnest, industrious Americans make the things needed by all the world.

This dream ends in no hard walls. Its horizon widens with humanity. It plans to make the Sermon on the Mount just as real as humanity can make it, and thus to realize the dreams which promote a greater and finer population to do more for all the world and to be spiritually and physically comfortable while doing it.

Omar Khayyam *re* The American City

By JACOB CRANE
Director of Urban Studies, National Housing Agency
Past-President, American Institute of Planners

HOW best can the cities of the USA be remolded near to the heart's desire?

Whose heart's desire? I assume not solely the desires of industry or business, nor real estate or property, nor the government or the "bureaucrats." And perhaps least of all not solely the desires of the planners. We must mean a consensus reached by democratic methods.

Thus it seems to me that planning must assemble, inform, stimulate, compose, reflect, and visualize the desires of a community. In reviewing how best to remold our cities, this is item number one — democratic planning. We have not yet achieved it, but our objective these days must be to approach it more and more closely, putting into the remolding of our cities whatever we can marshal in the way of intelligence, organized effort, and financial resources.

Second, I would suggest that our objective should be to build up larger resources which can be devoted to city rebuilding. We must maintain a high level of national income, widely distributed, to permit rising standards, clear across the boards, from education to housing.

Third, we need immediately some important new planning techniques. We need to know how to determine the appropriate and economic degree of dispersion — suburbanization versus concentration. We need machinery for large-scale land acquisition for rebuilding, and for land reserves for new building and for various future uses. We need measures to make sense out of suburban booms. We need techniques for development of adequate neighborhood facilities. We need measures to rationalize the location of industry. And, of course, we need metropolitan government and sensible realistic systems of taxation.

This overly simplified catalogue seems remote from Omar Khayyam's expressed desires, but they constitute at least part of the "how" to remold our urban communities.

A Strong Argument for Urban Redevelopment

ALTHOUGH SLUM AND BLIGHTED DISTRICTS COMPRISE ABOUT 20% OF THE METROPOLITAN RESIDENTIAL AREAS THEY ACCOUNT FOR:
EACH SYMBOL INDICATES 10%
33% OF THE POPULATION
45% OF THE MAJOR CRIMES
55% OF THE JUVENILE DELINQUENCY
50% OF THE ARRESTS
60% OF THE TUBERCULOSIS VICTIMS
50% OF THE DISEASE
35% OF THE FIRES
45% OF THE CITY SERVICE COSTS
6% OF THE TAX REVENUES (REAL ESTATE)
ABOVE PERCENTAGES ARE ADJUSTED AVERAGES FOR VARIOUS CITIES THROUGHOUT THE COUNTRY

From the Federal Works Agency's pamphlet on "Post-War Urban Redevelopment,"— see page 51 of this issue.

The "Seattle Method" of Rail Removal

A novel rig attached to a dragline reclassifies 4F street-car rails into 1A and drafts them for war production

TOP: *The first step in this important salvage work is to take out a row of bricks next to the rail.*

CENTER: *Next the Universal Unit shovel combines with the home-made A-frame to pull the rails out of the street. Notice that Seattle's PCC trolley cars maneuver handily around the work.*

BELOW, LEFT: *How the street looked after the rails had been removed and cut into convenient lengths.*

BELOW, RIGHT: *The handy A-frame is now set aside and the shovel goes to work cleaning up the brick and broken concrete.*

TO show how rail removal has developed from a patchwork proposition into a fine art, we now have the "Northwest," or "Seattle" method of jockeying the rails out of the pavement. Here is the way it worked in Seattle:

When street cars were abandoned in Seattle, no less than 25,000 tons of good rail steel were left in the streets. About 8,000 tons of this were in open centers or rights-of-way which were paved with removable concrete slabs, or not paved at all. This was removed by the Transportation Commission in 1940-41, and the salvaged rails sold on the open market, leaving approximately 17,000 tons embedded in the concrete, stone, brick, or asphalt pavement.

Early Work Expensive

Late in 1941 and 1942, C. L. Wartelle, City Engineer, arranged for the removal of 6,000 tons of these rails which were sold for $16.50 a ton, the cost of removal and repaving being approximately $90 a ton—an unquestionably patriotic but none-the-less expensive gesture.

In January, 1943, the city made an agreement with War Materials, Inc., a government agency, and under it the city has removed approximately 3,000 tons from the streets with modern concrete side roadways. The city sold this steel to War Materials, Inc., for $46.50 a ton. It costs the city on this part approximately $110 a ton of steel removed to remove the rails and replace the 18-foot center with concrete.

To balance this, War Materials, Inc., is also removing about 7,700 tons of rails from streets which are paved with stone, brick, or asphalt, and in this case they are repairing the pavement without cost to the city.

The part of the work done by the city, under C. L. Wartelle, City Engi-

Next comes the paving operation

A view of the completed street

neer, was on four contracts. All of them have been completed. The rails are mainly 80-pound high T section, with a scattering of 127-pound girder section. The rails were originally laid on wood ties embedded in and supported by concrete. Upon this were laid the brick pavement blocks. For the 18-foot street-railway section, the side roadway is being paved with concrete.

Construction Procedure

In pursuing the work, the ties were left in place, only the surface pavement being removed. After the debris was taken up—together with the cushion material if any—the surface was cleaned and washed with a hose, and the new concrete laid using ready-mix with 1¼ bbls. of cement to the cubic yard. In the business district high-early strength cement was employed in the mix so that the paving would be ready for traffic in 72 hours.

The contractors had just one piece of heavy equipment on the job—a "Unit" ½-yard convertible shovel and trench hoe. But they rigged it up with various accessories until it was a veritable handy man. With the dipper removed, the boom carries a portable steel A-frame which straddles the rail to be pulled. Inside the frame at the head, is a three-sheave pulley on a shaft passing through the head transversely. Below this hangs another three-sheave pulley fitted with tongs for grasping the rail. The load line of the shovel works over this pulley assembly.

When the power was applied, with the multiplication derived from the pulleys, up came the rail, ripping the pavement like so much cheese rind at the same time, so that no further breaking of the pavement was required. Rails were burned through the ball only at 30-foot intervals before pulling. They broke at these cuts and very often at intermediate points. With one length of rail up, the shovel was moved back, carrying the frame, and the process repeated.

Having removed the rails and broken the pavement for a block or two, the shovel went back to the other end and removed the debris, changing over to a hoe rig and using a ½-yard scraper bucket as illustrated, and loading direct to trucks.

Paved with "Ready Mix"

When the debris had been removed and the pavement cleaned and washed, the concreting of the section started immediately. By using ready-mix concrete, the minimum of equipment was required in placing. In fact, all operations, from the tearing up of the rails to the final concreting were carried on within the strip—except for the drawing up of service trucks in the lane adjacent to the excavation. Traffic was slowed up only to that extent, but not shut off. Even at intersections traffic was generally maintained over one lane on each side of the work in both directions while the center was being constructed, and then over the inner lanes while the outside sections were being completed. Rarely was it necessary to reroute all traffic through one of these intersections, and then only for the 72 hours required for setting.

Indianapolis Subsidizes Concerts

GOOD music at 40 cents an admission for all persons in the community is the object of a tax investment in a cultural experiment by the municipal government and the city school board in Indianapolis. The two governments contributed $25,000 each to subsidize the Indianapolis Symphony Orchestra this year, and the city will receive receipts from eight popular priced concerts.

From the four concerts held so far, $3,300 was taken in with a net income to the city of $1,200, according to the International City Managers' Association. Since some of the remaining four public concerts will be held in the Coliseum, which has a much greater seating capacity than halls used previously, city officials believe the eight concerts will return at least $10,000 annually to the city.

Since eight free programs will be given for the city's school children, the school district does not expect to get back any of its $25,000.

The Indianapolis Symphony Orchestra is one of the few in the nation receiving municipal grants. In San Francisco $40,000 is allotted, for which the orchestra plays during the ballet season, and in Baltimore $50,000 is granted for five concerts. In neither case does the city participate in the gate receipts; in Indianapolis all receipts from the series will revert to the city treasury.

The Indianapolis Symphony was supported by private enterprise for about 10 years, but the sponsors felt the organization warranted municipal tax support. Opposition to increasing the tax rate was overcome by the management of the orchestra agreeing to give the city the proceeds of a series of popular-priced concerts.

Funds provided for the orchestra by the city did not involve a direct increase in tax rates. A special law passed by the 1943 state legislature provided for a maximum grant by the city for popular-priced concerts.

Washington, D. C. Adopts

Controlled Open Incineration

To Meet a Wartime Refuse Disposal Problem

WHILE incineration is undoubtedly the best and most satisfactory way of getting rid of a city's trash and refuse, there are at least two substitutes available when either wartime priorities or economic reasons prevent the construction of such a disposal plant. The first is the well-known Sanitary Fill method, the second is the little known Controlled Open Incineration method.

Washington, D. C. is the first large city to develop this latter method to any high degree. Superintendent William E. Xanten, head of the Capitol city's Refuse Division, virtually was forced into the practice for reasons that will be disclosed later, and his experiences and practices show the difference between an ordinary "burning dump" and his method of Controlled Open Incineration.

First of all here is some of the background to Superintendent Bill Xanten's unique disposal problems:

ABOVE: *Refuse is placed in a 10-foot layer prior to burning.*

ABOVE: *After burning, the layer reduced to approximately a one-foot depth, is dressed down slightly with a small bulldozer and compacted with a five-ton roller.* LEFT: *Piles of rock such as these mark the top elevation to which the fill will be created.*

Salvage programs can be coordinated easily with this type of refuse disposal. Above is one of the piles of scrap steel collected at regular intervals.

Washington's Refuse Disposal Problem

Washington has three separations of refuse: garbage, ashes, and trash. The first two cause no particular trouble. Garbage collections total approximately 100,000 tons per year, part of which is sent to a reduction plant for grease salvage and part going to farmers for hog feed. Ashes, amounting to around 160,000 cubic yards per year, are equally easy to handle sometimes, being dumped in selected low areas and sometimes being used by the Highway Department. Trash, however, consisting of unsalvable paper and rags, broken bottles, smashed boxes, and all the other accumulations that even the most energetic junkman will scorn, gave Bill Xanten his headache. Amounting to 220,000 tons per year, it bulked into the unwieldy total of 2,200,000 cubic yards or a scant 200 pounds per cubic yard, making transportation at best an expensive problem.

Washington's unique geographic set-up also presented a problem. Whenever a refuse truck stepped out of the city limits, it found itself in a maze of conflicting interstate regulations that obstructed the action that any normal city could follow. Also the city's boundaries are rigidly fixed, and it cannot step out and incorporate new areas the way practically every other city can do. Also the extensive housing programs have resulted in almost the entire area being used.

The net result was that Washington was rapidly running out of suitable available dumping areas.

New Incinerators Not Available

Washington has two incinerators used in the disposal of this trash. These incinerators, operating 24 hours per day, can handle 1,200,000 yards or about half the required load. WPB had ruled that new incinerators were "out" for the duration. Consequently the balance has to be disposed of by some other method.

Both WPB and U. S. Public Health recommendations were for the Sanitary Fill method. However, Superintendent Xanten pointed out two very practical reasons that ruled it out.

Fire control is an important feature of this type of refuse disposal. Hydrants are placed at frequent intervals and are reinforced by this old but none the less efficient fire truck.

First, the Sanitary Fill requires lots of area. A cubic yard of material may be compacted to a certain extent by rolling or tamping, but substantially all the material must be covered, and none destroyed or reduced. Consequently the area to be filled is used up rapidly.

Next, ground reclaimed by the Sanitary Fill method has a low bearing value, consequently is of doubtful use for anything other than parks or recreational areas. There is an immediate and natural objection on the part of land owners, whether private or governmental, to the creation of an unstable fill subject to severe settlement and possible internal burning.

As an alternative, WPB suggested shipping the trash to a suitable dumping site for the Sanitary Fill. This, Superintendent Xanten pointed out, was equally impractical. If railroad facilities were used it would require the daily shipment of some 65 gondolas and an assignment of approximately 150 to 170 cars to the project. Trucks could not be used since not a sufficient number were available. Barging also was ruled out because with high-towering loads that the light trash would create barges would be unwieldy in the tricky Potomac channel at times of strong winds. And all these obstacles were apart from the problem of providing rehandling facilities at the disposal site if an accessible one could be found.

Thus it can be seen that Washington was virtually forced into the task of developing this new method which Superintendent Xanten has named "Controlled Open Incineration."

How the Method Works

Experience with this trash has shown that, when burned, it reduces to about one-tenth of its previous bulk. Consequently the dump foreman places each day's collection of trash in a layer approximately 10 feet deep in a selected area of the dump. When firing the day's accumulation, he starts the blaze so that it must burn *against* the wind, thus minimizing the possibility of a runaway blaze. Since residential areas are close by, he makes it a point never to start the fire on those sides of the dumps unless the wind is blowing away from the homes, and promptly extinguishes the fire if the wind changes and a nuisance or fire hazard might result. The disposal area is bounded on two sides by the Anacostia River.

When the fire finally consumes the trash, it leaves a residue of about a one-foot layer, which, if properly placed, forms the continuation of a layer that had been placed previously. A small amount of dressing by a grader or small bulldozer and compacting with a roller leaves the area trim and stable.

Fire Control Measures

Fire control is, of course, important and Superintendent Xanten has taken all the necessary steps. Fire hydrants are located strategically with the hose ready for instant use. To help bolster this precautionary measure, a small fire truck is permanently housed at the dumping ground. During the days of frequent black-outs these controls succeeded in preventing violation of the black-out regulations. Normally, the day's load is largely consumed by nightfall and all of the preceding day's fire is completely quenched.

Fills can be built as high as is desired by this method. Careful planning has resulted in a well-laid system of grades to which the fill will be raised. These are indicated by a series of rock mounds that establish finished grades.

At present, fills are being built in various marshy areas adjacent to the river. The ultimate 10 to 15 feet of dense, well-compacted residue forms a firm base not subject to settlement and one that can be used admirably in practically any kind of anticipated development. It furthermore is gradually eliminating a nuisance-creating mosquito-breeding area.

The excellent care with which the operation is being conducted can be attested by the fact that although residential areas are relatively close—within a quarter of a mile—no serious complaint has been registered. In part this may be due to the acceptance of emergency measures in times of war. On the whole, however, it is believed that the rigid control of the firing operation with respect to wind direction and the portion of the dump used, together with the procedure of firing by daylight and quenching at nightfall with the consequent preclusion of the notorious smouldering characteristic of the old burning dump, has limited the degree of smoke nuisance to a tolerable minimum.

Advantages

The method has many of the advantages of the Sanitary Fill. It can accommodate daily loads of varying sizes without difficulty. Metal scrap drives can be adapted to it easily—in fact Washington has sent numerous loads of scrap iron to the steel mills that have been salvaged from these disposal areas—and it requires no critical material and a minimum of labor.

It should be noticed also that practically all the disadvantages of the Sanitary Fill are absent. Controlled Open Incineration will allow the use of a dumping area longer than the Sanitary Fill. It produces a fill that is sanitary and stable, that can be used for practically any purpose, and it does not produce the possibility of rats, bugs, or carbon monoxide generation that are sometimes reported when the land-fill method is used.

"It should not be suggested," says Superintendent Xanten, "that this will permanently supplant incineration. It will not. Obviously it does not compare with a modern incinerator for disposing of enormous quantities of garbage and refuse. However, when these disposal plants are ruled out by priorities, or possibly by economic reasons, Controlled Open Incineration will offer safe and sanitary relief. Although Washington is unique in many respects, there are many cities faced with the same problem—that of diminishing dumping areas that are getting further and further remote, increasingly costly trucking operations, and unsuitable soil characteristics for the Sanitary Fill.

"In these cases," says Superintendent Xanten, "Controlled Open Incineration may be the answer."

George Schroepfer, Chief Engineer and Superintendent of the Minneapolis-St. Paul Sanitary District answers

Some 64-Dollar Sewerage Questions

posed by The American City regarding the world's largest chemical-mechanical sewage treatment plant

1. *How much sewage does the Minneapolis-St. Paul plant have to treat and what are its characteristics?*

Mr. Schroepfer: The average sewage flow has been increasing since the plant's construction from an average of 88.9 mgd in 1938 to 119.1 mgd in 1943. The strength of the sewage also has been increasing somewhat irregularly during that same period from an average suspended solids content of 240 ppm to 290 with 315 ppm recorded as an average in 1941. On the basis of the 220 ppm of 5-day BOD in the raw sewage, our sewage is equivalent to that contributed by a population of 1,200,000 (0.17 lbs. BOD per cap.). This comes from a contributing population of 810,000 at the present time.

2. *How thorough a treatment does this plant furnish?*

Mr. Schroepfer: The degree of treatment provided was subject to the most thorough study by the engineers who designed the plant. State health authorities established certain requirements governing the characteristics of the Mississippi River downstream from the plant. The designers carefully correlated the degree of treatment with the extent of the flow in the river and arrived at the conclusion that plain sedimentation removing 36 percent of the pollution load would suffice 87½ percent of the time: that filtering the effluent, thereby removing another 9 percent of the pollution load, would be required for an additional 4.5 percent of the time and that chemical precipitation would be required for the balance. Thus while the Minneapolis-St. Paul plant is considered the largest chemical treatment plant in the world, it utilizes this feature only a relatively small portion of the time.

3. *Were there any other alternate types of treatment given serious consideration?*

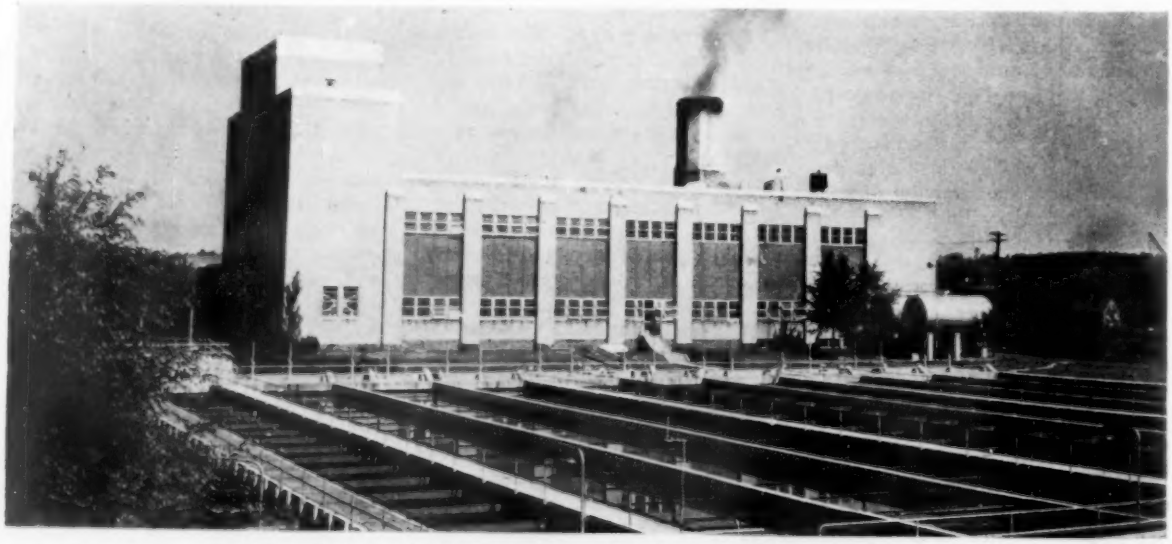
Mr. Schroepfer: Yes. Serious thought was given to the possibility of using the activated sludge process for the supplemental treatment with this process being used intermittently. When the studies began in 1927 the trickling-filter process was also considered. The extreme variation in river flow ruled against these other processes from the economic standpoint.

4. *Does subsequent operation vindicate the decision?*

Mr. Schroepfer: It is difficult to answer this without being accused of prejudice. However, it can be pointed out that exhaustive economic studies were conducted before arriving at this type of treatment. They estimated that the original cost would run $3,241,000 and its maintenance and operation would be $285,000 annually except when chemical treatment is required when the costs were estimated at $390,000. Actually the original cost ran to $3,750,000 (additional treatment units having been added since the first estimate was prepared) and the annual cost for the past three years has been averaging $280,000, substantially lower than the estimated cost of any alternate. Therefore, we feel safe in saying that without a doubt the selection of the engineers was the best that could be made for the dilution conditions that this particular problem presents.

5. *Have you made any decisions regarding the most efficient velocity of the flow through the grit chambers that your plant uses?*

Mr. Schroepfer: We have made some interesting investigations regarding this, varying the velocity from 0.5 to 1.4 feet per second. Lately we have been utilizing the latter velocity during dry weather flow with good results, reducing the velocity to the lower value during storm flow conditions. The increase in velocity results in a



A view of the sludge incinerator building and settling tanks

more dense sludge and improves filterability.

6. *Has your practice of abandoning the use of the 6-inch coarse bar screen at the head of the plant produced any favorable results?*

Mr. Schroepfer: Yes, it has. In more than one year of continuous operation with the screens removed, we conclusively determined that we have made material savings that more than offset the small increase in maintenance costs of one-inch mechanically cleaned bar screens which has resulted.

7. *The settling tanks are unique, we believe, because of their length and general design. Have any significant operational features developed out of their use?*

Mr. Schroepfer: There are six settling tanks, each divided into three compartments. Each tank has the rather formidable dimensions of 56 feet x 290 feet with a water depth averaging 15½ feet. Each compartment has three flight collectors 18 feet wide to remove the sludge. Some concern was expressed originally over these lengthy collectors; however, they have been working excellently. With an average detention period of 0.9 hours an average of 64.3 percent of the suspended solids and 40.1 percent of the 5-day BOD are removed. With detention periods of 2½ hours removals of 75 percent and 45 percent respectively can be effected. By careful withdrawal operations we have been able to hold the solids concentration in the raw sludge to around 8½ percent.

8. *Has there been any effort to salvage skimmings from settling tanks?*

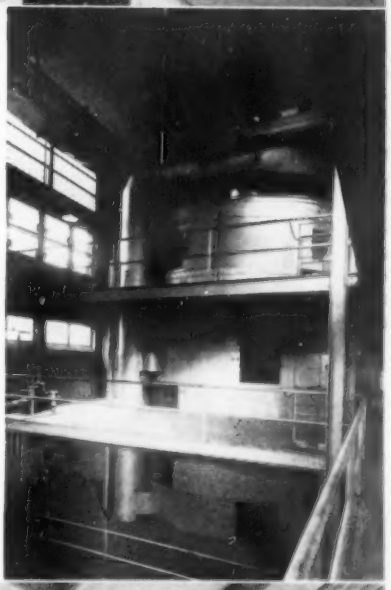
Mr. Schroepfer: To date we have found no one interested in these skimmings. Our practice is to remove them to an area adjoining the plant and cover them with incinerator ash.

9. *We understand that the effluent filters are operated at the rate of 3 gallons per square foot per minute in comparison with a rate of 2 to 2½ gallons per square foot per minute in other plants. Has this introduced any operating complications?*

Mr. Schroepfer: We did encounter some difficulties with sand erosion and displacement. However, this has been solved by the manufacturer by means of revising the inlet ports and other details and by installing levellers to maintain the sand at a uniform depth.

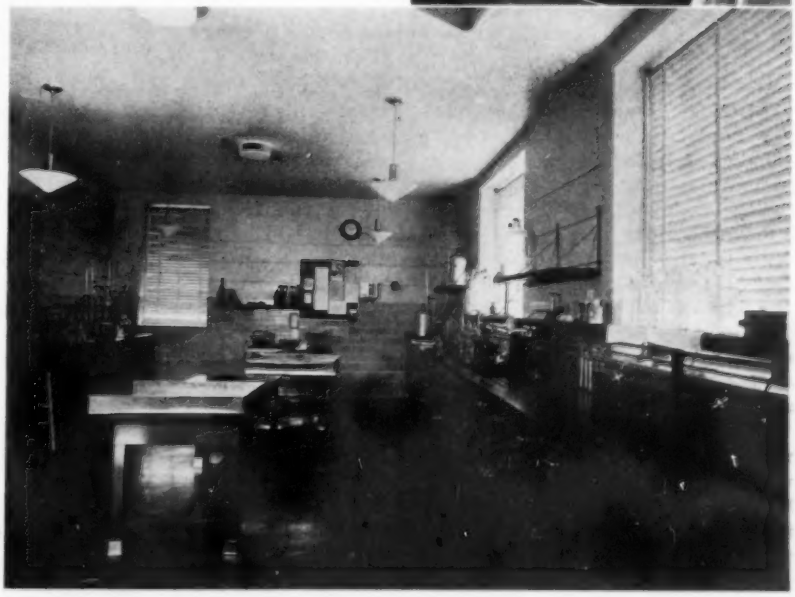
10. *We understand that your plant was one of the early ones to filter raw sludge without the intervening stage of digestion. Do you believe this procedure is economical?*

ABOVE: *These direct-acting pumps move the sludge from the settling tanks to the vacuum filters for dewatering.*



RIGHT: *One of the three incinerators used in the final reduction of sludge.*

BELOW: *Laboratory tests control every operation in the carefully-run plant.*



Mr. Schroepfer: For the size of the project and the conditions obtaining here the filtering of raw sludge is decidedly economical. Chemicals required for conditioning are lower than in many plants employing digestion. By careful operation and improvement changes the chemicals have been steadily reduced from 3.17 percent of ferric chloride and 10.3 percent of lime in 1938 to 1.12 percent and 3.05 percent respectively in 1943. Sewage treatment costs at our plant are $7.30 per million gallons. The cost of sludge disposal per ton of dry solids is approximately $3.50. The life of the filter cloth also has been lengthened to 493 hours during 1942 in comparison with 355 hours in 1941. This latter savings was effected principally by the use of hydrochloric acid containing an inhibitor to clean the cloths, drums and screens.

11. *Have you experienced any difficulty incinerating the sludge for final disposal?*

Mr. Schroepfer: We have not. Originally it was believed that a supplementary fuel would be required to assist in the incineration, and provision for burning fuel oil was provided. However, this did not prove to be the case. We not only have found that the sludge supports combustion, once the incinerator is working, but we have not needed the preheaters and hot air fans.

Inventory of Principal Equipment

5 mechanically cleaned Jeffrey bar screens with one-inch openings
2 Jeffrey screenings grinders each with capacity of 3,500 pounds per hr.
9 Infilco dry chemical feeders, capacities ranging as follows:
  3 from 400 to 2,400 pounds per hr.
  2 from 400 to 2,100 pounds per hr. with lime slakers
  2 from 200 to 1,200 pounds per hr. with lime slakers
5 Wallace & Tiernan solution-type chlorine feeders with capacity up to 30,000 pounds per day
2 Builders Iron Foundry venturi meters with capacity range of each from 43 to 350 mgd.
8 Carter displacement-type sludge pumps each with capacity of 210 gpm
6 Oliver vacuum filters each with capacity of 30 tons of dry solids daily
3 Nichols Engineering multiple-hearth incinerators with capacity of 60 tons of dry solids daily
Ash handling by the Allen-Sherman-Hoff hydraulic sluicing method with capacity of 720 tons of ash per day

The savings in operations that we have effected because of this have amounted to nearly $5,000 per year.

12. *Can you anticipate any use of your sludge for fertilizer purposes?*

Mr. Schroepfer: We can and are developing the use of the sludge for a fertilizer. In 1939, the quantity used was 21 tons; in 1940, 2,757 tons; in 1941, 3,678 tons; in 1942, 6,867 tons; and in 1943, 11,580 tons. In 1½ months of 1944 a total of 12,549 tons has been hauled. This is all in the form of filter cake. The sludge contains about 2 percent nitrogen and 60 percent volatile solids. After storage for six months, it shows no evidence of the typhoid, paratyphoid, or dysentery pathogens, thus it is acceptable from a public health standpoint. County agricultural agents and the Minnesota Agricultural Experiment Station conducted investigations on certain test plots and arrived at the following conclusions:

1. That the value of the sludge cake is in the organic matter and nitrogen that it adds to "humus-poor" soils.
2. That its presence promotes the growth of nitrogen-producing bacteria.
3. That it improves the water holding capacity of sandy soils.
4. That its mineral constituents assist in the chemical balancing of many poorer soils.

13. *Do you feel that the sewage-treatment developments have progressed about as far as possible in regard to your particular plan?*

Mr. Schroepfer: Definitely not. We anticipate that new refinements will be uncovered constantly. We hope not only to offer fresh ideas to the sanitation field but also to be able to put into use those progressive suggestions offered by other operators and engineers.

Should Every Community Have Its Own Air Field?

What do we mean by community?

By ALLEN V. BRETT
Research and Development Engineer
Detroit, Mich.

ADEQUATE answers to those questions can be developed only by thinking and planning not from the ground up—"what do we need in airfields?" but from the sky down—"what is the traffic potential?"

Air travel is passenger traffic in the air. Air cargo is the same express, mail, premium freight now moving on rail and rubber. The future air traffic is merely that portion of the future total traffic which it is sound, economically and otherwise, to move by air.

The job boils down not to communities but to what, in other fields, we call "marketing areas." The problem is to determine the air traffic potential to such an area, break this traffic down into the principal categories of (1) passenger, mail, and express, (2) premium freight, and (3) non-schedule, individual traffic; project reasonable expansion; plan and build, *as needed*, the ground facilities to service the traffic as it develops.

There is another potential here which calls for thought. In rail and rubber, the traffic needed the *way*—rail or highway—before it needed the terminal. The terminal was the end of, or a point of transit in, the *way*. In the air, as in the water, the traffic goes where the harbors are. Airfields are sky harbors. Good harbors drew in, really created, marine traffic for their locality. Paralleling this, good "sky-harbors" will attract and draw in, creating air traffic for the area served. The controlling factor in rail and rubber-born traffic is the *way;* the controlling factor in air- and water-borne traffic is the *harbor*.

Adequate Ground Facilities

Thinking in terms of an airfield per community will not solve the problem because it is hard to define community; and "airfield" may mean anything from a grassy 60-acre lot up to a "super-dooper" airport. The objective we should set for post-war America is that every community in the land should have reasonable access to, and be served by, ground facilities adequate to its air traffic, actual and potential.

The air traffic community is probably a grouped unit, cities, towns, hamlets, which (a) by consolidating their traffic requirements at an effective level; (b) by cooperating to develop ground facilities accessible and adequate to their needs, and (c) by coordinating their traffic needs and ground facilities with state and national operations, determine for themselves the effective area.

This is the opportunity facing each community in America today. The country needs airports but the nation needs each community facility as a part of a great national system.

Ole A. Pearson (right), Chairman, War Emergency Child Care Committee of Minneapolis, discusses the Minneapolis Rehabilitation Plan with Major General Phillip B. Fleming (center), and Colonel Harry Keeley

Finding Jobs for Misfits

By HAROLD S. KAHM

A new scientific method, instituted by a municipality, may aid in solving the post-war relief problem

IN spite of the huge war industry there are still thousands of people on relief, and the number is expected to multiply after the war, greatly increasing the average American city's tax burden. But a new hope has been developed in this connection resulting from a new scientific experiment conducted by the city of Minneapolis.

Because of this successful experiment, Minneapolis has achieved, with but one exception, it is believed, the biggest percentage of decline in relief-case loads of any major city in the nation.

With jobs a dime-a-dozen due to wartime labor demands, one might assume that no other factor could be half so significant. But if this were true, such war-booming cities as Detroit and San Francisco would certainly have the lowest number of relief-case loads. Actually, Minneapolis, which is located in a third-class defense zone, with respect to employment, has far outstripped them.

Vocational Guidance Service

The scientific experiment responsible for this almost sensational decrease (more than 50 percent) was started in 1940, and consisted of the creation of a Vocational Guidance Service designed to discover and develop latent talents and skills which a large percentage of "hopeless" relief clients were believed to possess, and which, if discovered and developed, would enable them to become self-supporting and self-respecting members of the community.

The experiment, conducted in collaboration with University of Min-

A one-armed man, formerly on relief, was discovered to have mechanical skill he could use. He is now self-supporting.

nesota psychologists, was a success. It is saving thousands of dollars for the city's grateful taxpayers, and it has resulted in the rehabilitation of thousands of individuals who would otherwise have become burdens to the city.

Says O. A. Pearson, Superintendent of the Division of Public Relief, Minneapolis Board of Public Welfare:

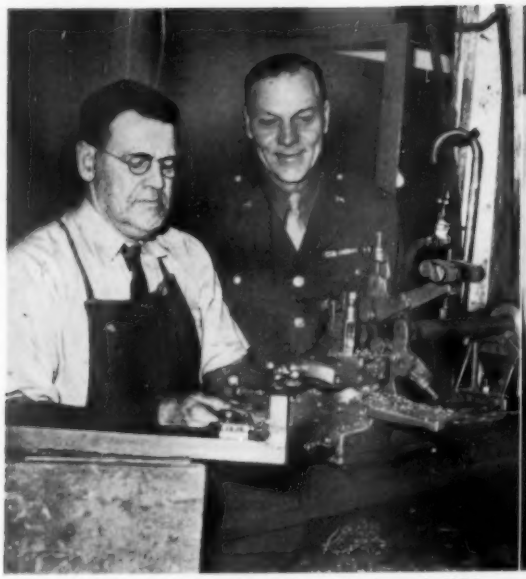
"The federal government is placing great emphasis on vocational and social rehabilitation as a means toward meeting both war and post-war social and economic needs. The government plans that the already established facilities be used in working out this rehabilitation program.

"The Minneapolis Division of Public Relief is already at work on this program of rehabilitation through its program designed to provide testing and counselling services to relief clients. Standardized aptitude tests are used to furnish counsellors with objective measures of the abilities of the clients so that selective referrals to jobs can be made.

"To March 1, 1944, 3,220 cases were interviewed, tested and counselled. As of March 1, 1944, 2,777, or 89 percent of these clients had secured private employment and are no longer receiving relief. An estimate of the saving to the city of Minneapolis can be made by figuring the average rate of relief per case as $40 per month. According to this method the current monthly saving to the Division of Public Relief is $111,080 per month.

"It is relevant to report that many of these clients have been long-term relief recipients, many of whom made their last job applications in approximately 1931 and had had no work experience since, except in federally-sponsored projects such as ERA, CCC, and WPA. Without the stimulus of an interview with a counsellor cognizant of local employment needs and able to back up his recognition of the employability of the client by referal to his measured aptitudes, the client may make no effort to secure employment. It is a common experience of the counsellor to be told by the client that he has 'tried to get work everywhere' without success. When questioned, he admits that his last application was made ten years ago. He is given a letter of interpretation of his contact with Vocational Guidance Service and the names of companies who are hiring men with skills similar to his. He renews his search for employment, and in many cases is successful.

"We have made contacts with employers who have been glad to accept referrals through the VGS. The referrals have been made selectively by means of aptitude tests so that the individuals referred made



A former relief client who found a job through VGS

Peg-Board test to show finger dexterity at USES

good on the job. The employers appreciate this and have in many cases called for additional referrals of men and women of similar qualifications. To date 99 companies have been contacted. One of them recently requested 30 additional referrals for an in-shop training program."

The Vocational Guidance Service, Mr. Pearson points out, has emphasized the testing and counselling of younger members of relief families in an effort to guide them in securing training that will give them a trade for which they are suited. Among available training facilities are those provided by the State Department of Rehabilitation and the United States Employment Service. Where abilities warrant, clients have been counselled to remain in school to complete training and they have been referred to part-time jobs to maintain themselves while in training.

The Vocational Guidance Service, until February 1943, had its clerical staff and technical supervision supplied by WPA. Since the closing of the WPA program the Division of Public Relief, under the jurisdiction of the Minneapolis Board of Public Welfare, has assumed the entire cost of the service. A part of this cost has been paid by non-relief clients, for in March 1943, the service was offered to the community on a fee basis. To date, the number of individuals tested and counselled is considerably over 5,000.

The remarkable success of this new idea in relief administration will, without doubt, eventually be duplicated in all municipalities, for the basic idea is extremely simple, practical and inexpensive. So far as is known, Minneapolis is the first city in the country to use the new plan.

It is believed that as time goes on, and the tests are improved, an even higher percentage of favorable results will be obtained. Just what those results have been, so far, can best be realized by comparing the decrease in direct relief-case loads in Minneapolis to the decrease in other cities with bigger war industries. For example, between January and October 1943, Minneapolis had a decrease of 50.1 percent as compared to 23 percent for Pittsburgh, 21.1 percent for Los Angeles, 24.1 percent for Chicago, and 36.2 percent for the fabulously busy Detroit. There is no other factor but the VGS to account for this difference.

Minneapolis has no copyright on its Vocational Guidance Service, and Mr. Pearson expresses his willingness to cooperate fully in supplying complete information to any other municipality that might be interested in duplicating it.

Ten-Year Changes in City Revenue Sources

MAYOR THOMAS GAMBLE, of Savannah, Ga., in a message to the Board of Aldermen on March 8, called attention to the problems of readjustment which that city will face in the post-war years.

"Here in Savannah," said the message, "there has been an influx of 45,000 population, induced by temporary war industries, with extraordinary payrolls aggregating over $5,000,000 a month which will largely cease when peace comes."

In Savannah, as in many other cities, the municipality's financial condition has been benefited by improved tax collections resulting from wartime prosperity. But in these same cities the coming of peace may bring temporary unemployment on a large scale, and a resulting decrease in total municipal revenues.

"It is not advisable," said Mayor Gamble, *"to allow a spirit of pessimism to permeate and control either public or private business outlooks and functions, but at the same time it is clearly inadvisable to cultivate a spirit of undue optimism or wilfull blindness as to what the future may hold in store.*

"If an unemployment crisis develops after 1944 or 1945, this municipality will be forced to bond issues to provide its proportion of outlays on public works. This is one thing to be kept before us in studying our municipal finances. . . .

"If possible, there should be additional cash reserves accumulated this year as a buffer against coming post-war demands and probable post-war deficiencies in local revenues. The only safe way to operate is along the lines of sagacious economy, not through curtailment or impairment of the services now given our people, but through the avoidance of any extravagance or waste, or the assumption of additional services involving outlays not provided for in current income."

The Mayor's message showed changes in the bases of municipal revenues in Savannah during the last 10 years, as follows:

PERCENTAGE OF SOURCES OF REVENUE

Sources	1933	1938	1943
Real Estate	52.67	47.80	40.87
Personal Property	12.25	11.64	10.72
Licenses and Badges	11.32	14.21	14.77
Water and other Utilities	15.57	13.74	20.56
Police Court	01.41	01.75	05.09
Fees and Miscellaneous	06.21	07.28	04.32
Intangibles	....	01.55	01.10
Franchises	00.57	00.58	00.45
Amusement Tax	....	01.45	02.12
Totals	100%	100%	100%

In the foregoing statement the purpose was to eliminate all bond money and all receipts from the federal government, so that only the actual revenues from the regular sources of income would show—that is, those sources continuing from year to year and on which the municipality normally relies for revenues for its operations.

A detailed analysis was then presented of the receipts and expenditures of Savannah, for the last 10 years, Mayor Gamble's message pointing out that:

"We cannot plan intelligently for the future unless we know the foundations on which we are building. We cannot know the foundations as they exist unless we study the financial and other developments of recent years."

Air Menace Spurs Spacious Planning

By L. M. CHITALE, F.R.I.B.A., A.M.T.P.I.
Chartered Architect and Town Planning Consultant
Madras, India

EVENTS in China, Africa, and Europe have shown that modern cities are extremely vulnerable to air attack. Innocent men, women, and children, the sick and the suffering have been killed and injured. Many who escaped unhurt have been rendered homeless. Buildings and structures are damaged and destroyed. Transport and communication facilities have been dislocated, and water and gas mains damaged, rendering the life of the survivors difficult. In extreme cases people have been compelled to change their mode of life and subjected to unimaginable physical and mental strain. Even the social and economic life of nations subjected to extensive raids has been affected. Time alone can reveal the consequences to society and civilization from this formidable menace. But even what is already obvious is horrible.

Prevention, the most desirable solution, seems unattainable at this time. Protective measures for the citizens, city structures and essential services capable of resisting to high explosive and incendiary bombs therefore become necessary. The high explosive bomb is formidable. A 500-pound bomb can penetrate the strongest of our buildings. Its blast can demolish any normal wall at 20 or 25 feet, and its fragments can cause death to people even several hundreds yards away. None of our buildings in India can stand a direct hit and nearby explosion. The incendiary bomb though less deadly is no less destructive. It can set an effective fire and destroy cities by spreading conflagration.

Spacious Planning and Zoning Essential

Protection to life can be ensured by bomb-resisting accommodation, by massive structures carefully designed and built. But air-raid shelters capable of resisting direct hits of bombs are very expensive. Unless they can be used in times of peace, their erection is financially impracticable. A dual purpose shelter will solve the question of finance and economy. To economize in the number of such shelters they should be surrounded by business houses and residences. An altered city layout and the zoning and planning of residential suburbs therefore become necessary to make protection possible to all. Initial outlay is, of course, a big problem but against this we must consider what it would cost for evacuation and medical aid. No financial outlay can be considered too big when it is a question of preserving the life and morale of the people.

From India comes this warning of the dangers to be faced by a world not geared to peace. It behooves municipalities to organize for support of their national government in efforts to cooperate with other world governments to prevent future wars. Failing some effective world program of peace, such far-reaching changes in city and town planning as here indicated may become imperative.

Regarding structures, it is idle to recommend that every building should be bomb proof. But by avoiding congestion and by adopting an open layout, we could minimize the chances of direct hits; and by careful designing and construction the consequences of blast can be easily rectified and the edifices made fit for use. Frame structures can resist bombs better, and if each building were at least 25 feet away from its neighbor, destruction of structures by bombs would be very expensive and almost negligible. If buildings were properly classified and if cities were zoned and the residential area separated from the industrial, commercial and other zones, the scope for casual destruction would be eliminated and destruction by bombing would become inadvisable.

Unless cities are planned and zoned, we cannot prevent indiscriminate bombing and casual destruction. Unless we have space around buildings, we cannot reduce the effect of vibration upon foundations; and until our roads are made wide, we cannot hope to keep them free from debris, blocking them and preventing the movement of fire-fighting and salvage parties.

In conclusion it comes to this, that to resist the high explosive bomb our buildings must be suitably designed, our roads must be wide, there must be space around each building, and the different kinds of activities must be separated. It is the lack of all these which makes our cities easy prey to raiders.

Fire Protection and Water Supply

The kilo incendiary bomb can be prevented from penetrating into a building by a flat reinforced concrete roof, five inches thick. Fire breaks are also absolutely essential to prevent fires from spreading and to confine destruction to the building actually attacked. Every building in the city must be detached from the rest, with sufficient space around, to prevent firebrands flying and spreading fire. Adequate water supply should also be ensured to every part of the city to fight the fire.

Modern methods of production and distribution of essential services are extremely vulnerable to air attack. The underground system and drainage get shattered when the high explosive bomb hits the street. Dislocation by a few bombs will be made impossible only if the sources of production and methods of distribution are decentralized and every unit or group of houses is rendered self-sufficient and self-reliant as far as possible. A single-story detached residence, with a little garden, is essential to obtain optimum welfare for the human species. Such a system will admirably resist air raids.

In commercial and business zones of a prosperous city, water and drainage mains, electric and telephone cables, etc., could be run below the ground in a tube subway constructed of reinforced concrete and kept about 20 feet below the surface. The top surface could be of reinforced concrete made thick enough to serve as a detonating slab and prevent bombs getting in. "Nerve centers" could be housed in buildings of special design and construction located in parks or gardens and camouflaged very well. Gardens and pastures surrounding a

city can obviate "digging for victory" in times of war.

To resist air attacks we must have bomb-proof shelters for all the people, buildings and structures that would minimize the destruction by air raids, and services immune to dislocation. We also require a suitable contingent of fighter aircraft, anti-aircraft guns, balloon barrages and other ground defense equipment. These are needed to force the raiders to attack the targets from a great distance and in great hurry—the two factors which render destruction very expensive. With these four features carefully combined, we would obtain a city which could protect the citizens and resist attack from the air to such an extent as to make air raids not worth while, thereby undermining the enemy's incentive to adopt air raids as his method of aggression.

Design of the Future City

What will the plan of such a city be? There will be a large central park about half a mile in diameter around which civic buildings, stately edifices, temples and the like would be located. A green belt around these would separate them from the city zones lying in the surrounding area—commerce, administration, trade, banking, insurance, etc., each zone separated from the other by parks, open spaces, gardens, and roads. Buildings in these zones would be frame structures, of not more than six stories and located around garages which could be used as bomb-proof shelters in emergency. A green belt of gardens and parks 500 to 1,000 yards wide would encircle this area and separate it from the surrounding residential suburbs. The residential zones would be in the form of townships and villages, self-sufficient and self-reliant in matters of water supply and drainage and lighting. Community centers, capable of conversion into bomb-resisting accommodation for those residing around, would form the foci of each group of residences.

Pasturage and vegetable gardens would encircle the residential belt. In this pasturage would be housed cattle and livestock catering for the dietary, transport and other needs of the city. Anti-aircraft gun positions would be located in this area to check the raiders. The road encircling this pasturage would help to connect the anti-aircraft gun positions, and to defend the boundary. Ammunition stores, telephone exchanges, broadcasting stations, electric power houses, etc., would be housed in carefully designed structures and located in the green belt. Trees and vegetation and parks would make identification of these very difficult. Aerodromes and railway stations are large and cannot be concealed in gardens; they, therefore, would lie outside the city and away from residences. For the same reason factories would be located outside the city. Tanks, ponds, wells, and bathing pools would be all over the city, to provide dependable and copious supply of water for fire fighting, decontamination, and normal peacetime purposes. The entire city would be surrounded by a belt of agricultural land growing cereals and pulses. And it would be superfluous to "dig for victory" in times of war.

When we critically examine the potentialities of aircraft bombs, the method of air attacks, the method of destruction and damage that a city like this will permit, and the rapidity and facility with which it can recover from air attack, it will become evident that the destruction of city structures will be very expensive, dislocation of the supply of essential services will be nearly impossible, and citizens would be almost absolutely safe. These may not make air attacks impossible but would make raids ineffectual and inadvisable. Herein lies the chance for cities and civilization to survive the air menace.

The expense and effort of preserving civilization and culture in its modern abode—uncontrolled agglomeration of men and buildings—is prohibitive. For partial evacuation and A.R.P. organization for England, £360,000 a day are needed; not to speak of the £16,000,000 expended every day to resist aggression mainly from the air. Is it too much to ask, then, to spend much less to obtain much more—permanent abodes of peace and security for man and his material culture?

Local Control in Disposition of War Housing Urged

A RESOLUTION urging that communities in which federally owned war housing is located be given the major voice in determining what shall happen to such housing when the war ends, was adopted on March 16 by the Middle Atlantic Conference of the National Association of Housing Officials, in session at Wilmington, Del.

Introduced by Commissioner Glenn U. Richard of the Housing Authority of Alexandria, Va., the resolution is similar to one adopted by the Virginia Legislature, which in turn was based on action taken on February 8 in Alexandria at a joint meeting of the City Council, Housing Authority, City Planning Commission, and War Housing Advisory Committee of that city.

Emphasizing the fact that much of the war housing was constructed in haste as a war measure, and in many instances in violation of local zoning, building, or planning regulations, the resolution points out that improper disposition of such housing by the United States Government would adversely affect the general welfare of the cities and communities in which it is located. "It is our considered opinion and judgment," says the resolution, "that any legislation enacted by the Congress of the United States to provide for the ultimate disposition of public war housing should contain provisions to the following effect:

"(a) That the local governing body in a particular city or community shall have the right to designate a local agency to act as the legal agent for the disposition of war housing, under a broad delegation of power by the Government of the United States, provided that, in cities or communities where housing authorities are established at the time disposition of war housing becomes proper, the local housing authority shall be the legal agent unless another local agency is designated by the local governing body within 60 days after the termination of the war or within 30 days after a required notice by the Government of the United States or an agency thereof, to the local governing body that the war housing or a portion thereof in a particular city or community is no longer necessary for the war effort;

"(b) That in the event a local governing body fails or neglects to designate a local agency to act as legal agent for the disposition of war housing and there does not exist in such city or community a legally established local housing authority, or in the event the local governing body is unable to agree upon a plan for disposition, then the Government of the United States upon 90 days' notification may designate an agency thereof to act as legal agent for the disposition of such war housing, but such legal agent shall be required to consult with and consider the recommendations of local governing bodies in determining the most desirable and appropriate disposition;

"(c) That prior to the disposition of any public war housing the legal agent shall obtain from the local governing body its approval to the proposed plan of disposition."

The Alexandria resolution contained a further provision for the preparation of a comprehensive plan for the orderly disposition of public war housing situated in that city; this plan to be prepared by a committee of nine persons comprising two members each from the four local agencies above mentioned, and a ninth to be selected by the other eight.

Gridiron streets, with spreading blight and slums

How Gridiron Streets Systems Might Be Replanned

REDEVELOPMENT to overcome the distressing conditions resulting from a gridiron street system which ignores the functional differences between streets, was urged in a recent statement on Post-War Urban Redevelopment by W. S. Reynolds, Commissioner of Public Buildings of the Federal Works Agency, before the Public Buildings and Grounds Committee of the House of Representatives.

"Such a system [said the statement] usually produces a situation where far too much land is devoted to streets without providing any streets which are entirely satisfactory as through traffic arteries or as local streets. The present standardized street systems tend to diffuse traffic rather than concentrate it on a few major arteries where special facilities can be provided to facilitate movement and promote safety. Moreover, diffusion of traffic on many streets disrupts residential neighborhoods, makes every street intersection a danger point, and involves much needless expense for street construction, repair, and maintenance. . . .

Neighborhood Redevelopment

"Let us assume a theoretical city divided into a gridiron system of streets, located perhaps 300 feet apart. Could we not take this city and at intervals of one-half mile in one direction and one mile in another, construct express highways with all grade crossings eliminated? This would divide the city into neighborhoods, one-half mile wide and one mile long, with access to the major traffic-ways at intervals of only one-half mile. Perhaps one or more of these areas would consist of slum and blighted areas which should be completely rebuilt. This work should be done largely by private enterprise. Each neighborhood unit should have its own public facilities, such as schools, health centers, recreational areas, and such other community facilities as are required. The gridiron system of streets should be completely eliminated and new streets constructed of sufficient capacity only to handle the local traffic."

To visualize the application of the foregoing principles, the Federal Works Agency presented several illustrations, two of which are here reproduced. In contrast to the airplane view of a portion of a typical city that contains slums, blighted areas, and those ap-

How area "A" might be redeveloped

proaching blight, the perspective drawing shows a proposed redevelopment of Area "A." Discussing this plan the statement said:

"It will be obvious that the paved area has been materially reduced and the amenities of living increased. It is clear that the private investor could build, purchase, or lease properties in these areas with the assurance that the land values will be maintained in perpetuity. All classes of structures are shown as indicative only of what might be done. Exact development would depend upon numerous factors, including land values and relationship to other portions of the city.

Aid from Federal Government Urged

"To put this plan in force requires a liberalization of the present Highway Act to permit the Federal Government, states and local communities to combine in putting in the express highways. It also requires state legislation, similar to that in New York and in other states, permitting extension to the cities of the rights of eminent domain for the purpose of acquiring the necessary lands. It may even be necessary for the Federal Government to extend its credit to the cities in order to accomplish the above purposes. It is assumed that the residential and business structures will be built by private enterprise with the local communities providing for the public facilities, such as schools, hospitals, and so forth. Portions of these areas may be set aside for the construction of housing for the lowest income groups by what ever method of financing that may be decided upon.

"The descriptions above are general in character and the sketches are intended to be diagrammatic only. The only thought in mind is to express an objective and apply it to cities to the extent that local conditions and topography may permit. It can be said with confidence that if the measures recommended are carried out it will stabilize the financial structures of our cities, it will promote private enterprise, and build better citizens.

"These problems are not insurmountable. We have the opportunity and we have the ability to do a good job of rebuilding our cities. We cannot avoid some national responsibility to do just that."

National Commitee on Housing Holds Notable Conference

With an attendance of about 600 from all parts of the United States, a very successful National Conference on Post-War Housing was conducted in Chicago, March 8-10, by the National Committee on Housing (headquarters, 512 Fifth Ave., New York). The full proceedings are soon to be published by the committee; meanwhile *Survey Graphic* is devoting about half of its April issue to the more important papers. (See announcement on page 109 of this issue of THE AMERICAN CITY.)

Illinois Post-War Planning Commission Summarizes Local and State Projects

IN a Progress Report dated February 29, 1944, the Illinois Post-War Planning Commission presented the following summary of programs for post-war municipal improvements and other public works which had been reported up to that date by various units of government throughout the state:

Local Level

Municipalities (other than the city of Chicago); sanitary districts; park districts; school districts and townships have reported programs as follows:

Type of Construction	*Estimated Cost*
Street improvements	$ 26,712,755
Sewers and drains	37,603,647
Sewage treatment works	16,212,818
Water supply and distribution	6,943,281
Water treatment	732,800
Public buildings	13,725,950
Bridges and grade separations	14,535,500
Parks and recreational facilities	7,889,700
Airports	1,074,000
Power generating plants and distribution	3,134,000
Other	5,407,183
Total	$131,971,634

PLAN STATUS		
Detailed plans and specifications completed or in progress	20%	$ 27,030,002
Sketch plans completed in progress	24%	31,952,297
Surveys completed or in progress	7%	8,682,372
Preliminary estimates only	49%	64,306,963
	100%	$131,971,634

City of Chicago

City Departments and Bureaus and Other Governmental Units	*Estimated Cost*
City departments and bureaus	$751,547,995
Chicago Park District	77,346,000
Chicago Public Library	1,406,400
Board of Education	6,555,000
Municipal Tuberculosis Sanitarium	1,080,400
Academy of Science	421,000
	$838,356,795

County Level

Eight-seven counties from the total of 102 counties and representing 97 percent of the state's population have reported:

Type of Construction	*Estimated Cost*
Highways, including bridges, grade separations and other structures	$104,689,955
Public buildings	2,817,750
Airports	50,000
Total	$107,557,705

PLAN STATUS		
Detailed plans and specifications completed or in progress	45%	$ 48,331,755
Sketch plans completed or in progress	23%	24,870,000
Surveys completed or in progress	9%	9,582,000
Preliminary estimates only	23%	24,773,950
	100%	$107,557,705

Michigan Appropriates $5,000,000 State Aid to Local Planning

THE signature of Governor Kelly last month made effective an act of the State Legislature of Michigan appropriating $5,000,000 to "create a fund to assist local units of government to defray the cost of preparing certain surveys, plans, and specifications." The State Administrative Board will disburse the funds to the local governments on a matching basis.

Of the total amount of state aid, $3,000,000 is for cities, villages, counties and school districts for public improvements including highways and streets, public buildings, publicly owned and operated facilities, utilities and services. Apportionment to a city, village or school district is to be based on the population ratio to the state as determined by the 1940 census and the total 1943 school census of the state; to counties on the same basis, deducting population in incorporated places.

Of the remainder, $1,000,000 is to be allocated for cities, villages and townships to be used for designing for construction, street and public improvement projects and apportioned on the 1940 census basis with the population of incorporated areas excluded; and $1,000,000 is earmarked for country road commissions for plans for the construction or improvement of county roads, bridges and grade separations.

The Michigan State Planning will have the duty of reviewing and investigating all applications in the first two categories, and the State Highway Board in the third one. Plans entirely completed before the date of the act are not eligible for participation in the program. Provision is made for transferal of these funds by any city, village or township governing board to the county or county road commission in which it is situated.

A Small City Reports to Its Citizens

THESE three half-tones and their captions are from a well-written, well-printed "Report to the Citizens," in which Mayor C. F. Zukoski, Jr., Acting City Manager Charles B. Webb, and the Councilmen of Mountain Brook, Ala., tell of the affairs and activities of that community of about 3,700 population during its first year of incorporation as a city. The inside front cover of the report summarizes the achievements of Mountain Brook's first year as follows:

Passage of a city manager ordinance and appoint of Alabama's first City Manager.

Organization of the major municipal services

Establishment of a Recorder's Court

Installation of new street lights and fire plugs

Opening of a United States postal sub-station

Improvement of bus transportation

Passage of zoning, sanitary, license, and other important ordinances

Launching of a study of the school problem

Beginning of a survey of sanitary and storm sewer needs

All operations conducted on a pay-as-you-go basis

This police car is on duty day and night. It can be reached at any time within two or three minutes. Call 2—5634.

These men work 'round the clock. When you need them, you need them in a hurry. In case of fire call 2—5634.

These men are doing their best to keep our city clean. They need your co-operation.

More Water for Chariton, Iowa

By C. MAXWELL STANLEY
Stanley Engineering Company
Muscatine, Iowa

Flexibility of operation as well as increased supply both were furnished when this midwestern city built its third impounding reservoir thus insuring adequate water even during excessive drought.

EARLY in 1943 the City Dads of Chariton, Iowa, viewed with great satisfaction the sight of water flowing over the spillway of their newly completed impounding reservoir. Fresh in their minds were recollections of a recent shortage of water which had necessitated restrictions on consumption. At last they had an ample water supply with adequate storage to carry them over periods of extreme drought. The needs of their city for many years to come were well provided for, and inadequacy of water supply could not handicap the continued growth and development of their community.

Development of Water Supply

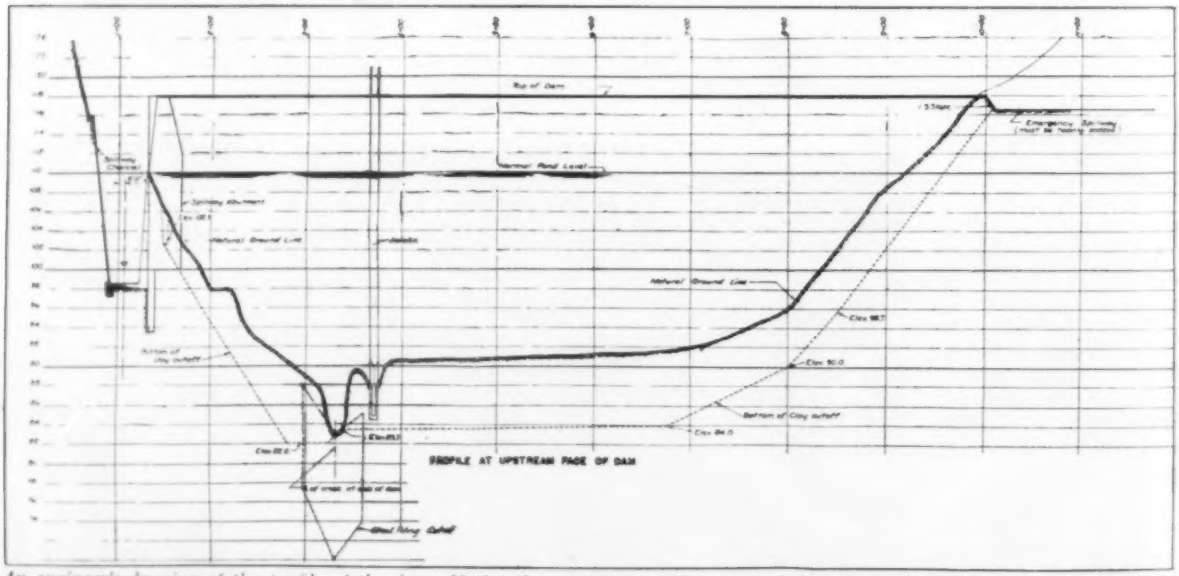
Years ago Chariton, abandoning some wells and accepting impounding reservoirs as the only suitable supply for their municipal water works, constructed an impounding reservoir a mile east of the city. This development has a drainage area of 1,850 acres and the reservoir has a capacity of 240 million gallons when filled to spillway crest. A treating and pumping plant located below the dam provides for sedimentation, filtration, chlorination, and pumping of the water into the city distribution system.

Eight years ago another reservoir was created by the construction of Red Haw dam upstream from the city reservoir. This was a CCC project sponsored by the State Conservation Commission, located in a state park, and intended primarily for recreation. The drainage area above Red Haw dam is 1,066 acres and the capacity of its reservoir is 395 million gallons. Arrangements between the State Conservation Commission and the city permit withdrawal of water from Red Haw reservoir whenever required to maintain the city supply.

Meets Drought Conditions

Low rainfall and runoff over a period of several years, together with increasing demands of the city combined to create a definite water shortage in the winter of 1940. When this condition had not been alleviated by the expected rainfall in the spring of 1941, the City Council retained the writer's firm to make a thorough study and submit recommendations as to needed improvements. When our surveys were made, the water level in both the city and Red Haw reservoirs was very low, the total being only 200 million gallons. With the months of heavy consumption and heavy evaporation immediately ahead, it was obvious that this represented only a few months supply. The city was, therefore, confronted with both an emergency and the problem of providing an additional supply to prevent a recurrence of the situation. The emergency condition called for curtailment of consumption by means of restrictions and by enlisting the cooperation of consumers. Fortunately such steps proved adequate to carry through the supply until relief was obtained from rainfall in the fall of 1941. But the margin of safety was entirely too small for comfort and the city proceeded immediately with the construction of another reservoir.

As impounding reservoirs are recognized as the most suitable supplies for



An engineer's drawing of the profile of the dam. Notice the emergency spillway supplied at the right that acts as a safety valve in the event of excessively heavy rainfall.

cities in this region, investigations were limited to the selection of the most favorable site. Comparative studies indicated that Little White Breast Creek immediately to the east of the city reservoir provided the desirable characteristics. Here at a point some 1,500 feet from the treating plant, a drainage area of 4,500 acres could be developed and a fairly sizable storage capacity obtained.

Population Studies

A study of trend of population indicated an ultimate population of 7,000. This population with an average daily per capita consumption of 70 gallons would require a total annual consumption of 180 million gallons (about 50 percent above present).

Average annual rainfall at Chariton is 32.4 inches, but annual precipitations as low as 13.77 inches have been recorded and a study of records indicated the possibility of two relatively dry years coming close together. There are no adequate means of accurately predicting runoff on the small watersheds involved, but experience has indicated that there are frequently years with negligible runoff. Investigations made by the writer's firm on several reservoirs in southern Iowa, have led to the conclusion that conservative design requires the adoption of substantially zero runoff for a period of two years. The storage capacity for Chariton must be sufficient to meet the following conditions:

1. Annual consumption of 180 million gallons
2. Thirty inches of net annual evaporation from the reservoir water surface
3. Zero runoff from the drainage area for a period of two years
4. A reasonable margin to offset silting

Extensive studies indicated that the existing city and Red Haw reservoirs substantially met these requirements of storage capacity, but that the drainage area supplying them was grossly inadequate to provide enough runoff to fill the reservoirs in normal years. The characteristics of the site on Little White Breast Creek was admirably suited to offset this shortcoming as the additional drainage area provided (4,500 acres) was nearly 2½ times the existing drainage area. A lake of 134 acres provided a storage capacity of 330 million gallons, bringing the total storage capacity of the three reservoirs to 965 million gallons. This provides for a two-year drought, with a margin of nearly 30 percent for future silting, as indicated by the following summary. It is interesting to note that the net evaporation over the two-year period is approximately equal to the total consumption.

Total Storage		965 M.G.
Consumption 2 years, @ 180	360	
Evaporation	339	699 M.G.
Storage at end of 2-year period		266 M.G.
Remaining Storage as percent of capacity		27.6

A view of the spillway for Chariton's newest impounding reservoir

General Description

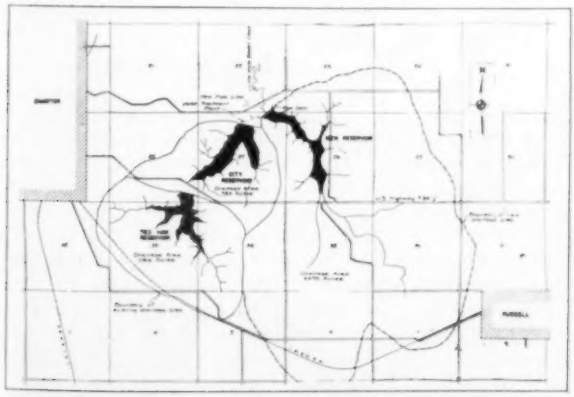
The improvements consist of an earth dam, a concrete spillway, an intake structure, a pipeline to the treating plant, an enlargement of the treating plant and the development of the reservoir site.

The earth dam having a length of 870 feet and a maximum height of 35 feet contains about 60,000 cubic yards of earth. It is constructed of compacted clay with an 8-foot top, a 2½ to 1 slope on the upstream face and a 2 to 1 slope on the downstream face. A cutoff trench filled with compacted clay runs the entire length of the dam and in addition a steel piling cut off is placed across the creek bed under the dam. The upstream face of the dam is riprapped with stones as a protection against wave action.

The concrete spillway located at the west end of the dam is of the side-channel type and consists of the spillway section and of a concrete line channel which conveys the water to a point below the dam. The spillway is "L" shaped and has a crest length of 90 feet which provides a capacity of 500 cubic feet per second per square mile with a 30-foot freeboard. The spillway is a gravity concrete dam and joins a concrete lined channel which extends below the dam and provides a stilling basin for controlling erosion. Concrete retaining walls are constructed at each end of the spillway to connect with the bluff and the earth dam.

The intake structure consists of a 3-foot square sluiceway under the dam with a 4-foot square concrete intake tower at the upstream end. During the construction period, the sluiceway was used to divert White Breast Creek. The upstream end was then closed with a concrete plug. The intake tower is provided with a 3-foot square sluicegate for draining the reservoir and with three 8-inch gate valves at various elevations to control the withdraw of water from the reservoir. A timber bridge provides access from the top of the dam to the intake tower.

At the lower end of the intake sluiceway, connection is made to a 10-inch asbestos-cement pipe which extends 1,600 feet to the treatment plant. Flow through this pipeline is by gravity.



Three reservoirs work together to furnish Chariton with its water supply. Notice that despite the large drainage area for the new reservoir the lake it creates is relatively small. Excess water is used to replenish the old city reservoir with its smaller drainage area.

The extension to the treating plant consists of a building addition housing a motor-driven centrifugal pump, which may be used to increase the flow of the 10-inch pipeline and also to pump water into the city reservoir, and a new flocculating basin preceded by a quick-mix compartment which serves to improve the treatment of the water.

In order to develop the reservoir site, the city purchased some 500 acres of land. Timber was removed from this area and fences were relocated as required. A bridge and several hundred feet of paving on U. S. Highway No. 34 were raised, and a township road was relocated.

Construction

Construction contracts were awarded October 14, 1941, and construction work was started immediately so that by the end of December work had progressed to the point where the structure was relatively safe from damage from high water in the spring. The work was then shut down until the spring of 1942 and was completed late in 1942, but it was not until the spring of 1943 that the new reservoir was filled to spillway level.

The total cost of the project, about $112,000, was financed by the water-revenue bonds bearing interest at 3 percent and maturing serially over a period of 15 years.

The J. T. McCarthy Co. was contractor on the earth dam while the Central Contracting Company installed the pipeline and G. Jordan & Son constructed the balance of the project. The work on the reservoir site was done by WPA labor under the supervision of the City Engineer.

G. B. Bergstrom was Mayor of the city during the planning and construction of the project and Dr. A. L. Yocom was Chairman of the Water Committee. William L. Perkins, City Engineer of Chariton, acted as resident engineer on the project which was designed by the Stanley Engineering Company of Muscatine, Iowa.

How to Meet the "Doctor Shortage"

U. S. Public Health Service aids in the relocation of physicians and dentists

IF your community is one of those that finds itself dangerously short of doctors and dentists, here is the action you should take.

Any municipality, county, or other local subdivision of government may file an application with the U. S. Public Health Service to secure a physician or dentist. Application forms are secured from the state health department. The application is executed by the legally authorized representative of the community (the city manager, mayor, chairman of the county board of supervisors, county judge). The application is sent, with the community's remittance of $300, made payable to the Treasurer of the United States, to the state health department for approval. When this approval is given, the state health department forwards the community's application and $300 to the U. S. Public Health Service.

Qualifications

Upon receipt of the community's application and payment of $300, the Public Health Service can enter into an agreement with a physician or dentist who has a permit to practice in the state in which the applicant community is located, who agrees to practice in that community for at least one year, and who is acceptable to the community. The costs of transportation of the physician or dentist, his family and household effects are paid. In addition, a monthly allowance of $250 a month for 3 months will be paid to the doctor. Of the total cost of transportation and relocation allowance, 75 percent is contributed by the U. S. Public Health Service; 25 percent by the community in which the doctor is relocated.

The total relocation cost to the community will be about $300. If the community's obligation should exceed $300, the balance due must be remitted to the U. S. Public Health Service upon the latter's request. If it is less than $300, the excess will be refunded to the community.

Financial Arrangements

After a written agreement between an individual physician or dentist and the U. S. Public Health Service has been concluded, the first monthly relocation allowance to the physician or dentist accrues from the date of the latter's arrival at the new location. The second and third payments are made at the end of the second and third months.

Travel and transportation costs can be paid in either of two ways. The physician or dentist who has a written agreement with the Public Health Service can apply to the latter for Government transportation requests and Government bills of lading. If this arrangement is carried out, the Government is billed and the physician or dentist does not have to use his own funds to cover this expense. Or, if he prefers, he may pay travel and transportation himself and be reimbursed for actual and necessary expense upon presentation of his claim to the Public Health Service. These claims must be supported by receipts insofar as possible.

The physician or dentist relocating under agreement with the Public Health Service remains a private self-employed professional individual. His relation to the community is the same as that of any other private doctor except that he must practice in the new location at least one year. The Public Health Service simply assists in getting together the community that needs a physician or dentist with the professional man who has the necessary permit to practice and who agrees to serve that community in his professional capacity.

During its last session, Congress passed a deficiency appropriation bill which included an authorization to the U. S. Public Health Service to enter into agreements with and make certain payments to physicians and dentists to relocate in communities needing medical and dental services. On December 23, 1943, this measure became Public Law 216, 78th Congress.

The law is designed to provide relief to those areas which for various reasons have undergone the hardship of inadequate medical and dental care. Many of these communities have lost their doctors and dentists to the armed forces.

Purpose of Law

The law also provides an opportunity for the physician or dentist who has wanted to set up practice in another community, but has hesitated because of the financial risk of those first months during which he and the families in the new town are becoming acquainted. Now, with a three-month allowance assured and with transportation paid for him, he can make that move with less fear of financial loss.

City Bases Sewage Charge

on *Industrial Waste Characteristics*

INDUSTRY at New Brunswick, N. J., is now making a direct contribution to the operating costs for sewage treatment on the basis of both strength and volume of flow, it was disclosed at the recent New Jersey Sewage Works Association annual meeting held in Trenton. In a paper delivered before this meeting. Mayor Chester W. Paulus stated that charges are being made on the basis of flow, suspended solids, and chlorine demand, according to the following schedule of rates.

$22 per million gallons of flow
$5 per ton of sludge solids
$5 per 100 lbs. of chlorine demand

The preparation of the ordinance establishing these rates, Mayor Paulus pointed out, was based on thorough and comprehensive studies of problems peculiar to New Brunswick. One industry in that city, he stated, contributes two mgd of waste on a volume basis but on the basis of solids in the sewage is equivalent to only 10,000 persons. Another industry gives the plant enough solids for a community of 200,000 persons, as contrasted to New Brunswick's normal population of 35,000.

The studies, analyzed under the direction of Elson T. Killam, New York consulting engineer, covered three possibilities. These were:

PLAN A—Independent treatment and complete disposal of wastes by industry with discharge to points other than the municipal system, involving complete separation.

PLAN B—Discharge of wastes into the municipal systems after pre-treatment by industry with subsequent treatment at the municipal plant.

PLAN C—Treatment of essentially all wastes at the municipal plant, without pre-treatment by industry.

Of these three plans, the city officials, upon the recommendation of their engineers and study of the points among themselves, and in conference with representatives of industry, concluded that PLAN C was the best.

PLAN A would burden industries with high construction costs and operating expenses in order to treat individual wastes that often are more difficult to handle than a combination of industrial wastes and domestic sewage.

PLAN B would be particularly uneconomical since many times wastes of one industry will neutralize the wastes of another. Pretreatment also would be only for the purpose of neutralization and actually would

(*Continued on page 77*)

CITY ORDINANCE

Take notice that the following ordinance was adopted on first reading by the Board of Commissioners of the City of New Brunswick, at its meeting held on Tuesday, February 8, 1944. A public hearing on this ordinance will be given to all residents and taxpayers of the City of New Brunswick, at a meeting of the Board of Commissioners of the City of New Brunswick, to be held on Wednesday, February 23, 1944, at the Commissioners' Council Chambers, City Hall, 78 Bayard street, New Brunswick, N. J., at 10 o'clock a. m., eastern war time.

AN ORDINANCE REGULATING THE DISCHARGE OF INDUSTRIAL WASTES INTO THE SEWERAGE SYSTEM OF THE CITY OF NEW BRUNSWICK, AND PRESCRIBING RULES, REGULATIONS AND SCHEDULE OF CHARGES FOR THE TREATMENT OF INDUSTRIAL WASTES.

Whereas the City of New Brunswick has constructed and operates a municipal sewage treatment plant, together with a system of collecting sewers, pumping stations and appurtenances, and

Whereas the municipal plant is in general adequate for a normal domestic sewage load of approximately twice the present population of said city, and

Whereas the municipal plant has been and currently is seriously overloaded due to excessive quantities of highly concentrated industrial wastes—to the extent that solids removed, filtered, and hauled to disposal have averaged four or more times the total sludge solids from the entire population of the city, and

Whereas the overload created by industrial wastes has greatly increased the cost of operation, maintenance, repairs and depreciation of the municipal plant;

The Board of Commissioners of the City of New Brunswick do ordain:

1. So far as practicable—industrial wastes may be discharged into the city sewer system—with a minimum of, or without pretreatment, provided the consent of the Board of Commissioners of the City of New Brunswick is first had and obtained; and the rules, regulations and charges herein fixed and prescribed for the treatment of industrial wastes or industrial sewage are complied with.

2. The charges for factory affluents or industrial wastes discharged into the city sewers or tributaries thereof, shall be fixed and determined according to flow suspended solids and chlorine demand, according to the following schedule of rates:

$22 per million gallons
5 per ton sludge solids
5 per 100 lb. chlorine demand.

3. The charges herein fixed shall be payable and billed quarterly on the first days of January, April, July and October of each year, and shall be a lien upon the premises connected with the sewer system until paid.

4. Before factory effluent comprising wastes other than domestic sewage can be discharged into the municipal sewer system, the following rules, regulations and conditions must be complied with:

(a) Industries shall at all times cooperate by adopting such schedules of discharge as will without interfering with factory production—minimize peak concentrations.

(b) In the event that the materials, chemicals in, or charactertics of, wastes from any industry, interferes with the efficiency of operation of the municipal plant, or unduly increases the cost thereof, then, said industry shall; by reducing its peak discharges; by construction of equalizing tanks; by partial pretreatment by elimination of troublesome wastes, or by other approved means; produce wastes of acceptable quality before discharge to the city system.

(c) The extent of difficulties and to a degree the cost of handling the wastes from one industry may be mitigated or aggravated by wastes from another industry. Accordingly, it is not deemed practical to set at this time, any numerical standards or limitations on concentration or quality. Therefore it is the intention of these rules and regulations to allow maximum latitude in the use of the municipal system—and to require control or special procedure by industry only in such cases as the failure so to do would seriously affect the operation of the municipal plant or would entail unwarranted expenditure at said municipal plant.

5. Measurement of flow:

(a) Each industry for which estimated charges will exceed $1,000 per year—shall install a suitable device for continuously recording the flow discharged to the city system. Plans for complete metering installation shall be submitted to the city for approval.

(b) In the case of industries for which the total annual charge is estimated to be less than $1,000—the volume of flow used in computing charges shall be based upon metered water consumption.

(c) In the event that evidence is presented indicating that more than 20% of the total annual volume of water used for all purposes does not reach the sewer, an estimate will be made of the proper amount to be deducted.

(d) Where industries have a private water supply—all or part of which is discharged to the sewer—the amount of such supply or the part thereof discharged to the city system—shall be metered and included in the charges made.

6. Determination of Character and concentration of wastes:

(a) Means shall be provided at each plant to allow periodic determination of character and concentration of wastes as a basis for charges for sludge solids and chlorine demand. Such determinations will be made at least twice a year; or, if deemed necessary, quarterly, immediately prior to the date of quarterly payments. Determination of character of the wastes will be made by the city and shall be binding as a basis for charges."

(b) In the event that the character of the wastes as discharged do not provide representative data as to actual costs—then charges shall be based upon full scale tests at the municipal plant or upon estimates based upon representative data.

(c) Samples shall be collected in such manner as to be truly representative of the actual quality of wastes—and standard methods of analysis will be used.

7. Changes and adjustment of rates.

(a) It is intended that the rates hereinbefore set forth shall become effective as of January 1, 1944, and will prevail until such time as they are found to substantially exceed, or yield substantially less than the actual cost of service rendered.

(b) The amounts charged will vary from quarter to quarter with the volume of flow and quality of waste as determined from records, tests, samples and analysis.

(c) In the event of changes in requirements of the Department of Health of the State of New Jersey and consequent charges in process and cost, the charges shall be subject to revision.

8. Any person, firm or corporation who shall violate any of the provisions of this ordinance shall be subject to a fine of not exceeding two hundred dollars ($200) or imprisonment for thirty days, or both, in the discretion of the Magistrate; each day that a violation is permitted to exist, shall constitute a separate offense.

9. If any of the provisions of this ordinance or the application of any provision hereof, to any person or circumstance, shall be held invalid, the validity of the remainder of the ordinance shall not be affected thereby.

10. The term person, includes individual, partnership, association, or any other organized group of persons or legal successors or representatives if any, of the foregoing.

11. All ordinances or parts of ordinances, rules or regulations, in conflict with the provisions of this ordinance are hereby repealed.

12. This ordinance shall take effect immediately.

Adopted on first reading, Tuesday, February 8th, 1944.

HEREBERT D. DAILEY,
THOMAS G. RADICS,
HARRY W. DWYER,
JAMES T. SHINE,
CHESTER W. PAULUS,
Board of Commissioners of the City of New Brunswick.

Attest:
JOHN F. BOYCE,
Approved: City Clerk.
PAUL W. EWING,
f10-1t City Attorney.

Elevated Concrete Storage Tank

uses concentric rings for support and pre-stressed steel for reinforcing. Construction costs approximated 10 cents per gallon of stored water.

By MORRELL VROOMAN
Consulting Engineer
Gloversville, N. Y.

THE one million-gallon elevated pre-stressed concrete water-storage tank referred to in this article is one of several similarly designed tanks of various capacities constructed at different military centers. Essentially a wartime development, these tanks are of permanent construction, nevertheless, and will serve their purpose for many years with little upkeep. Because of the unique methods of design and construction, their costs were held to the figure of 10 cents per gallon of stored water.

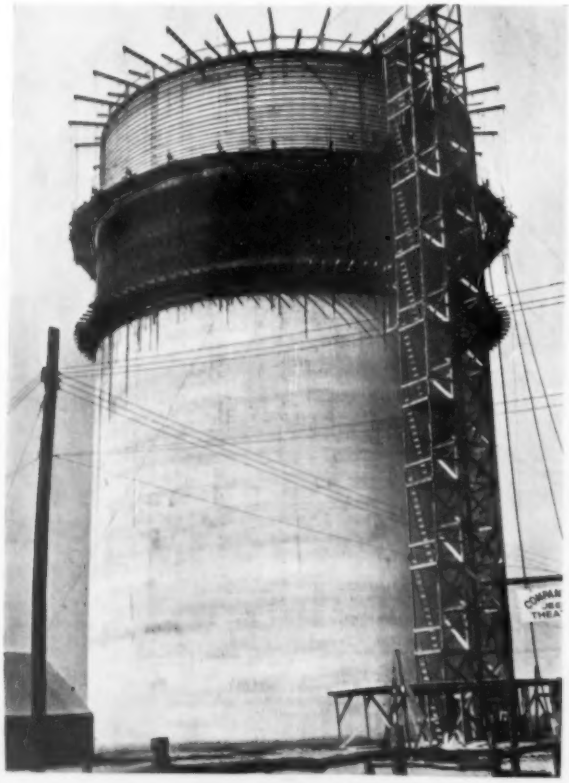
The standard steel elevated tank generally used prior to the war failed to meet the imperative present-day needs because of the enormous demand for steel plate and the length of time required for their fabrication and erection. Concrete tanks could be constructed without delay and required a minimum use of critical material.

Since ground storage tanks of the pre-stressed reinforcing design had been built successfully, the only structural factor that remained was that of providing adequate and economical tank support that could be constructed quickly. The supports for the tank consist of three 8-inch thick reinforced concrete concentric cylinder walls, 73½ feet in height from top of base to under side of the bottom of tank.

Low Cost, Attractive Design and Rapid Construction

The success of these tanks is based on their relatively low costs, speed with which they can be built and attractive appearance, which will insure for them a future demand in the field of elevated water storage. This type of tank readily lends itself to various pleasing architectural effects. They also are not subject to corrosion as is the case when a steel tank is not properly maintained.

Although some articles have been published covering this type of tank, the writer feels, in view of the interest expressed by many municipalities particularly in regard to post-war work, that a review of the subject may serve a useful purpose and possibly add some additional date.



A view of the elevated concrete storage tank during construction

Construction Details

As the result of competitive bidding, a contract was awarded the Nicholson Company, Inc., of New York City on May 28, 1942 for the construction of a one million-gallon elevated tank including piping and accessories for an eastern military base. The completion date called for by the contract was August 29, 1942. Although this schedule was not met because of a labor shortage at the area and delays in delivery of materials, the contractor states that tanks of this size can be built in a period of 90 days under normal conditions.

This tank consists of a reinforced concrete foundation mat 79′ 0″ in diameter by 3′ 4″ thick; on this foundation are three concentric circular reinforced concrete wall supports each 8 inches thick. The outer cylinder is 72′ 0″ in diameter; the middle cylinder is 48′ 4″ in diameter and the inner cylinder is 20′ 4″. All three cylinders are 73′ 2½″ high; a 6″ and a 24″ thick slab was poured on top of the supporting cylinder walls, the 6″ slab serving as a form for the 24″ slab.

Upon this went the tank proper, constructed with a circular 12″ reinforced concrete wall resting on the horizontal surface of the slab. There was no connecting reinforcement between the horizontal slab and the reinforcement of the tank walls. The inside diameter of the pre-stressed water-storage tank, with circular wall 12″ thick, is 70′ 0″; the height 35′ 9″ to the top of the overflow pipe plus 1′ 3″ to the inside spring line of the concrete dome roof. The pre-stressed rods placed around the outside of the tank wall keep it in compression thus reducing cracks and leaks to a minimum. These were covered with galvanized mesh and a 4½″ thick Gunite protective coating.

Covering the tank is a concrete dome with pre-stressed ring base. The dome slab is 3½″ thick which gradually increases to 6″ at the base from a tangent line 5′ 0″ out from the ring base or tank wall. A steel safety ladder furnishes access, starting at the foundation and extending along the inside face of the outer concentric wall to a steel

platform and door immediately below the tank slab. The door opens to an outside platform from which the ladder continues on the outside of the tank wall to the roof level, thence over a steel platform walk leading to a steel beacon platform 6′ 0″ high at the center of the dome roof. Below the beacon platform is a 4′ 6″ square metal-clad hatch cover for access to the inside of the tank. The structure is electrically lighted and equipped with a lightning protection system.

Supports Built Simultaneously

The three concentric reinforced concrete cylinder supports were constructed simultaneously by the sliding-continuous pour-jack-form method using 2,500 pounds of ready-mixed concrete. These walls of 73½″ height were poured in 6½ days, an average of 11′ 1″ per day. The outside surface of the outer circular wall was finished from a scaffold hung from the sliding form.

The 6″ slab, supported by the three concentric cylinder walls was poured with quick-setting cement to avoid delay in the pouring of the 24″ thick tank slab since, as mentioned previously, the former served primarily as a form for the latter. The foundation slab and tank floor slabs were mechanically vibrated. The 24″ slab was poured from the center out following a spiral pattern. This method was adopted, pouring concrete continuously at a regulated rate, to insure a monolithic slab and to allow shrinkage, due to setting of the concrete, to take place without development of shrinkage cracks.

Around the outer top edge of the 24″ slab there was provided a continuous tank wall shoulder 9″ deep of varying width to form a wedge-shaped seal pocket between the inside face of the tank wall and the nearly vertical face of the pocket. The seat formed by the slab for the support of the tank wall was carefully leveled and given two coats of asphalt paint to provide a free joint between the slab and tank wall. No steel plate, reinforcement or metal bond or tie was used between the slab and the tank wall.

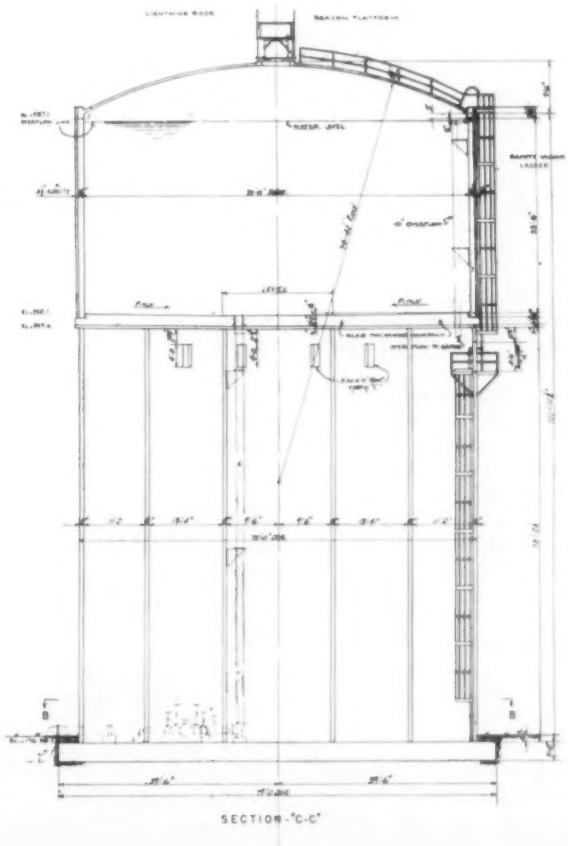
Building Tank Wall

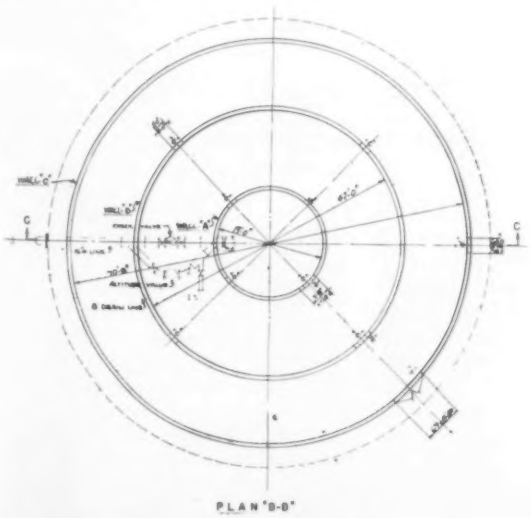
Unusual precautions were used in the pouring of the 12″ thick prestressed tank wall to insure a monolithic pour throughout. This wall was also poured by the sliding-jack-form method with 3,000 pounds of field-mixed concrete thoroughly spaded by hand and poured at intervals not exceeding 30 minutes. In order to insure an uninterrupted flow of concrete a stand-by mixer and hoist were provided. An average pour of 10′ 0″ per day was maintained in this operation for a total period of 31½ days. The sliding form of 70′ 0″ inside diameter was served by a 10′ 0″ wide platform supported on 2″ and 12″ wood beams extending from the sliding form to a heavy wood collar surrounding a 16′ 0″ square tower in the center of the tank. The wood collar was raised simultaneously with the jack form by means of special chain falls attached to the tower uprights. By this means, a controlled balance of the sliding form was maintained and the wood beams and platform served to maintain a true circular poured wall of constant diameter. The tower which was extended in height with the sliding form operation, together with the 2″ x 12″ beams served also as supports for the form work of the concrete dome roof.

The rods used for tank reinforcing were 1⅜″ in diameter and provided at each end with rolled threads and suitable turnbuckles. These rods had a yield point stress of approximately 45,000 pounds per square inch and were designed for a working stress of 18,000 pounds per square inch to give a maximum compression in the tank wall of 500 pounds per square inch. Each band consisted of five lengths of rods. Ten men were required to place a band in position, place the turnbuckles and provide initial tension in the bar. As the rods were tightened by a man at each turnbuckle, other men hammered the rods along their length to overcome the friction between the rods and the concrete wall thereby providing a uniform stress throughout the length of the bar. This same operation was followed in giving the rod its final stress. Steel bar levers were used to turn the turnbuckles with the length of the lever calculated so

RIGHT: *A cross section showing general construction features of the tank*

BELOW: *A view of the ring supports on which the tank is placed*





that when a man exerted a pull of 160 pounds at the end of the lever, the rod would be stressed to its pre-determined stress.

The plans called for continuity of reinforcing between top of tank wall and dome slab. A free joint between the tank wall and the circular base support of the dome, although used at the base of the tank wall, was not used at the top or roof. However, to date no cracks have developed. The inside vertical wall of the tank was waterproofed by the application of Inertol concrete primer applied cold followed by a coat of Inertol Homastic Tank Lining applied hot.

Sealing the Floor and Wall

The joint or space between the inside bottom 9 inches of the tank and the 9" slab shoulder was filled with alternate layers of high temperature asphalt and jute. This joint was not tight and was decidedly affected by changes in temperature—on a cold night there would be little or no leakage, but on warm sunny days the leakage would be pronounced and would follow the sun around the tank being at all times greatest on the side toward the sun. This joint was removed and replaced by a joint consisting of two layers of Inertol Homastic Tank Lining with two layers of Bentonite Waterproofing. This joint, because of its flexibility and ability to contract and expand on contact of the Bentonite and water has been absolutely tight.

The tank is connected to a 16" main in which is installed on the horizontal run inside and at the base of the tank a 16" flap check valve with standard water-works gate valves each side of the check valve. On the vertical run of this line is installed a 6" altitude gauge.

For filling the tank from the 16" main there is installed a 12" by-pass by-passing the check valve and gate valve combination. In this 12" by-pass is installed a 12" double-cushioned single-acting altitude valve with standard gate valves each side of the altitude valve. In the 12" by-pass line on the tank side of the altitude valve-gate valve combination is installed a Y connecting to an 8" drain equipped with a gate valve. The tank overflow pipe is a 10" line to which is connected the roof drains from points in the roof gutter. An outside balance Tell Tale gauge was also installed.

A high grade screened and washed amorphous quartz gravel was used for the concrete. For the supporting cylinder the dry proportions were 1-1.86—3.59 and 1-1.55-3.03 for the tank walls. The average compression tests of the concrete showed 2,205 pounds for seven days and 3,307 pounds for 28 days. Tank wall concrete went to 2,580 pounds for the 7-day test and 4,291 for the 28-day.

Materials and Costs

The amounts of material for the entire structure were: concrete 2,257 cubic yards—reinforcing steel 151 tons. The cost of construction of this tank, including piping was $106,498 or approximately 10 cents per gallon of storage capacity. The cost of piping included in the total was $7,500. The cost of lightning protection was $442. This is practically the same per gallon cost as the two 500,000-gallon steel tanks erected about a year and a half earlier at the same post.

Revenue Bonds Suggested for Post-War Improvements

"WHEN public works construction programs are resumed, there can be no question," says *The Bond Buyer* in its issue of March 18, "that many communities will have the money or the means of raising the money to pay for sorely-needed public works, and even other not-so-badly-needed projects of a make-work character. But there are many cities which will enter the post-war period in such financial condition that not only will they lack surplus capital funds, but their borrowing margins will be slim and their operating budgets overtaxed even without adding new maintenance or operation costs.

"This type of community must look to the state or the federal treasury for aid in financing post-war projects. Thus far there is little basis for counting on Washington, except for road building funds, and few state legislatures have made any commitments to the cities upon which definite programs can be developed.

"There is one other expedient to which such cities may turn. That is financing of certain types of improvements through the issuance of revenue bonds. A vast expansion of that field of public finance seems destined to take place during the next decade. Public revenue bonds payable out of the income of utility properties, toll roads, bridges and tunnels have earned for this type of security a high regard among investors. In the years to come we will probably see many new types of public works financed out of their own earnings. One of the greatest community needs after the war will be modern and adequate sewer systems. Another will be airports. Super highways and many new bridges and tunnels will surely be built if the means to finance them can be devised. Many other types of improvements, possible subjects for revenue bond financing, might be mentioned. Many municipal bond men, lawyers, public officials, engineers and others are exploring the possibilities of this field of public finance."

Yields Offered by Dealers in Municipal Bonds

IN addition to THE AMERICAN CITY'S monthly tabulation from *The Bond Buyer*, of new issues of municipal bonds which appears on page 73 of the present issue, the following compilation by *The New York Times* (of April 1) of current offerings of older issues by bond dealers is of interest. These typical issues of high-grade bonds are legal for purchase by savings banks in New York State.

	Rate	Maturity	Yield P.C.
Baltimore, Md.	3½	1981	1.75
Birmingham, Ala.	3	1957	1.80
Boston, Mass.	4¼	1976	2.10
Denver, Col.	4¼	1967	1.55
Detroit, Mich.	4¼	1956	2.00
Jersey City, N. J.	4¼	1961	2.30
Los Angeles, Calif.	4½	1964	2.10
Louisville, Ky.	5	1962	1.60
Minneapolis, Minn.	2.90	1962	1.45
Nashville, Tenn.	4	1963	1.35
New Orleans, La.	4½	1962	1.90
New York, N. Y.	4¼	1981	2.70
Newark, N. J.	4	1966	2.00
Pittsburgh, Pa.	3¼	1955	1.35
Providence, R. I.	4	1962	1.90
Richmond, Va.	4½	1964	1.35
San Francisco, Calif.	4½	1976	2.10
Syracuse, N. Y.	5¼	1954	1.15
Wilmington, Del.	4½	1960	1.25

The Human Side of City Hall

On the Air and in the Mailbox

By PHILLIPS BRADLEY

ONCE the annual report is out of the way, how can City Hall most effectively keep its audience? How can the citizens be "alerted" to watch their business, the city government?

More than one reference has been made here to the fact that "local government is news." If it is presented only once a year, in a well-organized and attractively presented annual report, most of the news element is lost. Why not also get out the details as they develop, the little stories which lie behind the annual report while they are in the making?

The local newspapers are, of course, the front line for releases on gleanings of current newsworthy items. The big stories will make the headlines anyway. The smaller stories can, with little effort and with a dash of imagination, be made into a weekly—or oftener—column. If the column is readable, it will be accepted. If a cut with an attractive title and background is suggested or supplied by City Hall, many editors will be glad to give it regular space and position. Reader interest will be built up; City Hall will be on the way to "feature" status in the local press.

Something to Be Added

Something more than this—something between the news item and the annual report—is, however, a good investment in public relations. There is a gap to be filled in the community's understanding and awareness of what City Hall is doing. The news item must necessarily be topical; it is likely to be about isolated incidents which, although interesting in themselves, do not build up a cumulative picture of City Hall's activities and programs. The annual report is no less necessarily a condensation of these activities and programs. As a summary of the year's record, it is indispensable, but it cannot be expected to take the reader behind the scenes and let him see City Hall as it works for him day by day.

Two media beside the press are available to give the citizens a better idea of who is working at what, and how the work is being done. One is the radio, the other the printed leaflet. How can these two media be developed to provide more effective community interest in municipal affairs?

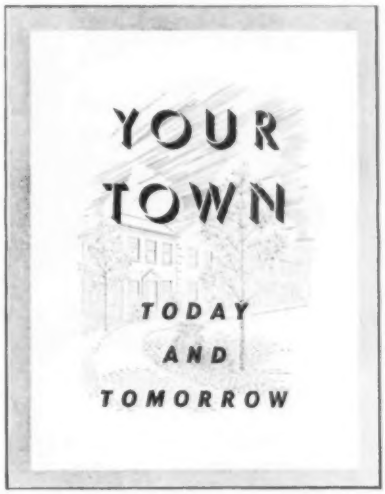
Making Radio Programs at City Hall

The radio is the most universal fireside news medium we have; it provides the most direct access to the citizen when he is in a receptive mood. City Hall can well afford to dramatize its activities, to explain its programs, at the point where they most need to be understood and appraised, in the homes of the people.

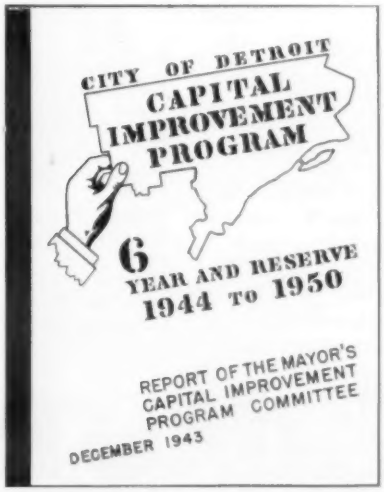
Just as the press will use the big news stories as headline news, so will the local radio stations. Feeding the right materials to the commentators will do much to put City Hall on the air with topical stories of current interest.

The radio can, however, be used for much more than news, and at little expense. Programs featuring the day-to-day work of the various departments can be developed out of their regular operations and, with a little expert aid, by their regular personnel. Control of City Hall's radio service should be centralized in one official, perhaps the publicity officer, or anyone else who has had experience with or displays a flair for radio work. He should be directly responsible to the mayor or city manager to insure the correctness of the presentation and the coordination of the service as a whole. He should be given a roving commission to pick up material and personnel for programs wherever he finds them. Participation by the various departments should be cleared through the city's chief executive.

A number of cities operate their own radio stations; in these cities problems of expense and available time are simplified, if not entirely eliminated. Ownership of a radio station is not, however, a prerequisite to getting City Hall on the air. Such programs are educational in character and, if well enough produced to merit presentation, will find more or less ready acceptance. The better the programs the surer they will be of getting a good hour on the dial.



Cover of an 8-page leaflet of the Better Housing League of Cincinnati and Hamilton County, Ohio



Attractive covers draw interested readers.

What Kind of Programs?

What kind of programs? The answer is: whatever kind will have real interest to the community. One of the most effective types being currently developed in many new ways in this country is the *ad lib* interview. The skeleton of the program should be developed first—a matter of four or five people sitting down for an hour or so and spelling out a department's activities. It can be clothed with much unanticipated human interest from the responses of the rank and file, unrehearsed and without previous radio experience. An hour of preliminary conference with the director of radio activity, and the group presenting the program is ready to go on the air. A good deal of the program's human

ALL OVER TOWN...

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WATER is easily the most important of the public utilities—more vital than gas or electricity. What *kind* of water is going into the homes, shops and factories in your city? Is it soft and sparkling, free of dirt and iron? It *can* be! Hundreds of up-and-coming communities enjoy good water—supplied by Permutit* equipment.

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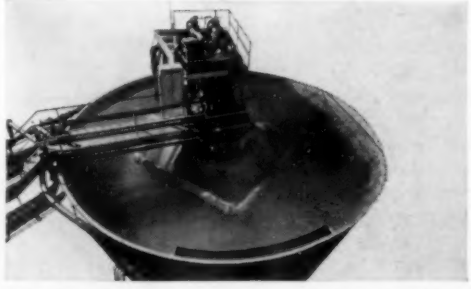

Permutit Spaulding Precipitator removes hardness, dirt and color from municipal water supplies. This new-type equipment for cold lime soda softening takes only half the space of older methods, cuts detention time, saves chemicals. Installations now handle capacities up to 120,000,000 gallons daily.

PERMUTIT

WATER CONDITIONING HEADQUARTERS

interest may very well develop spontaneously during the conference, or even while the program is underway.

Practically every department will turn up unexpected talent. The problem is not to find orators or those who use the King's English from the book. The lively person, who has ideas and expresses them colorfully if not always grammatically, will drive the department's story home more effectively than the most polished speechmaker. From the sanitation man to the school superintendent, there is a wide variety of skills and interests, which can be tapped for interesting and telling *ad lib* interviews.

A more formal radio program, which can be developed with the necessary time and a few specially talented performers, is the departmental skit. The skit should be developed with a view to its dramatic interest, but it should carry a story as well. Perhaps sketch is a better word for it; its core should be a behind-the-scenes view of the way a department works, what its objectives are, who works at what and how. Such programs need not be dull or routine; there is plenty of human interest in most departments to turn the story of the daily round into fifteen minutes of good radio. For many City Hall departments, an entire series can be developed around their activities.

The purpose of such programs should be the determining factor as to their character and content. They should be directed to the citizen-audience with a view to making it more aware—and so more critically appreciative—of the functions centred at City Hall and of the municipal programs guiding its activities. Within such a framework, the scope of each program as well as of any number and variety of series can be worked out with an almost unlimited flexibility. Beyond the salary of a radio director (often available in the ranks with a little searching) and a little clerical assistance, the only cost to the city budget will be the time of the participants. Even in smaller cities, this extra cost would be an almost invisible item in any department's annual budget—say one-fiftieth of one cent per capita for each program.

From the Ear to the Eye

Whether or not City Hall goes on the air, it can appeal directly to the eye. The same kind of approach, with the same purpose, can be made visually through the mails or by throwaways. Many cities send out real estate, water, and other tax bills several times a year. Often other types of official notice must be distributed in the course of the year. If regular notices do not go out frequently, brief behind-the-scenes stories of the work of various departments can be printed, duplicated, or mimeographed. They can be mailed or distributed through the schools. They can be made available to civic groups. Many willing volunteers (for instance, the Boy and Girl Scouts) can easily be enlisted in the enterprise as City Hall aides.

A well-planned series of such briefs of departmental activities and programs can be edited and produced at little cost. The talent will be found inside most departments; the central public relations office can help and should be responsible for coordinating the entire project. Costs need not be high. If periodic mailing is done, municipal postage costs will not be increased. If school or house-to-house distribution is necessary, ample volunteer help is available for the mobilizing.

In these days of paper shortage and salvage, additional items like these, even on a small scale, are out of the question. Now is the time, however, to plan a project for post-war days. Visual glimpses inside City Hall's services will, indeed, be particularly valuable when the armistice bugles blow, to mobilize community interest and cooperation in putting City Hall's programs into operation. The more citizens know about them at first-hand, even in a simplified and abbreviated but interest-enlisting form, the more certain will be the community's response.

Chamber of Commerce President Presents Case for Public Housing

SPEAKING in his joint capacity as president of the Chamber of Commerce of Delaware and as vice-chairman of the Wilmington Housing Authority, Thomas Donaldson voiced a strong plea, before the Middle Atlantic regional meeting of the National Association of Housing Officials on March 15, for a big job to be done by private builders and public housing organizations working in harmony.

"We all grant, of course," said Mr. Donaldson, "that public housing competes with the slum landlord." But it does not compete, he pointed out, in meeting the needs of families that private enterprise can decently house at a profit. "There are those who maintain that private industry *can* house our low-income families," he said, "but, as yet, none of them has produced a workable plan which improves upon the present tried and successful method of accomplishing this through public housing. As good business men, we should stick to our proven methods until a better one has proven itself beyond reasonable doubts. It is most important to America that all of our families shall be decently housed and at rents or costs that they can afford. . . .

Community Controls

"The idea that federal housing means federal control of community affairs is similarly fallacious. We all know, and should continuously explain, that the public housing program was set up by Congress—not by a group of federal agencies—and that it is adopted in each community by action of the state legislature and by the local government. Further, that the locally appointed authorities actually select the sites, let the contracts, supervise constructions, and own and manage the developments. . . .

"Another conveniently tricky argument used is the one pretending that 'low-cost' housing is a name for our programs—and proving that our cost is not low. It is so much easier to break down public confidence with that argument than it is to build it up again with the fact that 'low-rent' and not 'low-cost' applies to our program. The low-cost argument forgets that private contractors build public housing developments and private supply firms provide the materials. Neither the contractor's services nor the materials nor the labor is offered more cheaply to housing authorities than to private builders of similar size. The argument simply puts up a convenient straw man only to knock him down, with the hope of knocking down public housing at the same time.

"It is our duty to meet with the people who use or hear these biased arguments and show them the true facts. . . . Let us strive for full harmony and cooperation so that intelligent planning of beautiful, efficient cities will result and so that the housing of the American people may be one of the major post-war paths to fuller living, more jobs, sound investments, and general prosperity."

Fine Arts Museum, State Archives and History Building, Montgomery, Alabama

AT THEIR BEST IN MICHAELS "Time-Tight" EXHIBIT CASES

The illustration above shows how well exhibits appear in Michaels Time-Tight Cases. Manufactured in Table, Wall, Aisle, Suspended and Recessed styles, Michaels Time-Tight Exhibit Cases meet all requirements. You'll be interested in their many unusual features. Illustrated folder gives complete details on styles, sizes and constructional advantages. ¶ At the present time all the resources of this organization are devoted to war work. When peace comes, Michaels will resume the manufacture of Time-Tight Exhibit Cases, MI-CO Parking Meters, Bronze Tablets and other products.

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Community Participation in Gathering and Preserving Local War Records

Objectives and Activities of the New York State War Records Program

By HERMANN FREDERICK ROBINTON
Supervisor of Public Records, State Education Department

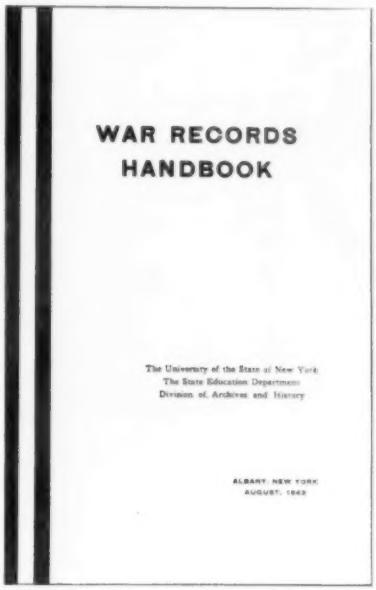
THE goal of victory, while inevitable, may still be a matter of long achievement if the community's level of civilian morale be allowed to slacken and false optimism to prevail. Maintaining the fighting home front is very much the concern of public officials and responsible civic organizations. With the let-up of the air-raid defense program, a new direction of effort for civilian volunteer services and activities is essential. Some community-wide program to bring the incidence of war home to every citizen would meet this need. What could be more worthy than the work of collecting and preserving records of the boys and girls in the service, and the efforts on the home front backing up their fight for victory?

The War Records Program of the New York State Education Department is accomplishing all and more of these objectives in cooperation with the State War Council's Office of Civilian Mobilization (CVD activities), and the various 107 city and county local war councils scattered throughout the state. Community-wide participation is assured by integrating the War Records Program with the current wartime activities of governmental offices, schools, scout groups, civic, fraternal, and veteran organizations, etc., without any special expenditures. War consciousness is implied in every aspect of the New York State War Records.

The New York State War Records Program, directed by the Education Department's Division of Archives and History, is really the coordination of the war records programs of some 107 local war councils. Simple in purpose, activity, and organization, it includes the collection of all types of records pertaining to the war effort, either on the fighting or home fronts, with emphasis on local records or those of local members fighting with the services or on the home front.

Enrolling and Directing Volunteers

Also, it includes organization of the collecting and preserving activities involved. Here the Division of Archives and History called on the volunteer services offices of the local war councils to supply volunteer workers and leadership for their communities' programs. World War I legislation has provided a good many of the counties, cities, villages, and towns with official local historians. Wherever appointments have been made, official local historians have been put in charge of the local War Records Programs. Otherwise, a chairman for the local program has been named by the particular war council.



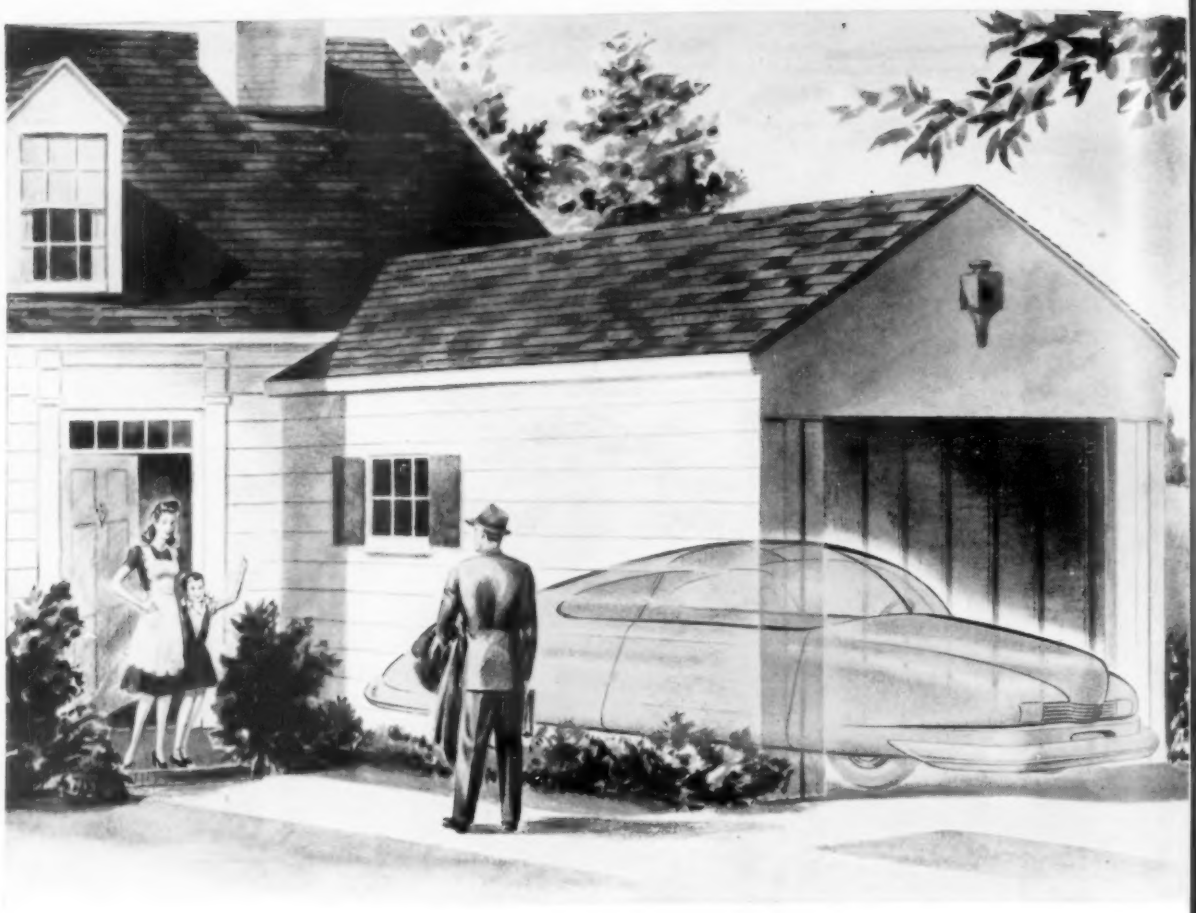
Volunteers, who do the work of collecting and preserving war records, are eligible for enrollment in the United States Citizens Service Corps, CVD, after an initial period of fifty hours of satisfactory work. If they persevere in their efforts in behalf of the local program, they are entitled to all the privileges of membership in the Corps, and to the wearing of the insignia.

The War Records Program is adaptable, and may be served by all groups in the community. Workers' hours need not be limited to a rigid schedule. Older persons, willing to devote several evenings or spare hours to the work, as well as younger people may therefore participate. The junior group enrollment plan (Junior United States Citizens Service Corps, or Jr. CVD), could be used with advantage for recruiting school children under sixteen or of scout groups. Such organizations as the Knights of Columbus, Masons, American Legion, which may be collecting their own records during the war years might constitute parts of the over-all coordinated community program, and individual members entrusted with such activities be made eligible for membership in the CVD on the same basis as other workers.

In other states, the War Records Programs have been carried forward in the main in cooperation with the state CVD organization. New York has, however, utilized fully the available facilities for volunteer workers and the coordinated effort of all groups. New York is the only state which has laws to provide for an organized network of official local historians on a county and city basis under the direction of the Division of Archives and History—this is also possible for your state and locality.

How the Community Benefits

Does a comparable War Records Program hold any value or worth for your community? It assures full participation on the part of the entire population, for everyone is interested in gathering the records of local sons and daughters in the service. It coincides with the citizens' own desire to keep a record of their share on the home front. It appeals to a local craving for immortality in the form of the written record. State and local war histories will be written. Records now collected will make up the source materials. Frequently, official records may be incorrect, be lost or destroyed; these local records will be available to aid in the prosecution of just claims of those in the service or of their dependents. Moreover, records, particularly those of plants now engaged in war work, and of the organization and plans of



There'll Be No Car in This Garage . . . *UNLESS*

A typical American family lives here.

There are hundreds like them—right in your city.

They are families that will not be able to buy new cars when this war is over.

They won't have the money—unless—you start your city's postwar planning—now!

You can reduce or eliminate the heavy burden of postwar municipal taxes with the profits a Fairbanks-Morse Diesel Light & Power Plant can make for your city.

Plan now! See to it that your municipality is *first* when deliveries are resumed.

For further information write Fairbanks, Morse & Co., Fairbanks-Morse Building, Chicago 5, Illinois.

BUY WAR BONDS

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DIESEL ENGINES
PUMPS
MOTORS
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WATER SYSTEMS
SCALES
STOKERS
FARM EQUIPMENT
RAILROAD EQUIPMENT

Diesels

civilian defense, would make up a body of material along with the official records of the various governmental agencies which might be of immense value in case we are ever again faced with the need for all-out war mobilization.

This war has repeated the World War I pattern of full mobilization of all of the resources of the nation, but it is the first time that state governments have geared their energies on a comparable plane. New York's War Council is just one instance. The preservation of the official and local records of this tremendous effort on the state level may have to be used again, just as the records of World War I have been utilized by the national government in the present emergency. There is really little difference between the War Industries Board, the Fuel Administration, or the Shipping Board of World War I and their World War II counterparts. We hope the need will never arise again, but it is wise to be prepared.

Integration with the Schools

An interesting part of the New York State War Records Program is the possibility of integration with the curricula of the schools. Children should feel that they are sharing the burdens of their parents and their older brothers and sisters; they should be made to feel that they are participating in the war effort. One of the best ways is to make them responsible for the collection of these war records—historians of their own families' records. In salvage work they are now rendering invaluable aid. They can be depended upon not only to collect materials but to help make them. In their English classes, their compositions could be written on such themes as the brother's furlough at home, or the effects of the nutrition program on mother's cooking, etc., valuable social history reports really. Similarly in their art classes, they could make posters for local rallies and drives, or in social studies give reports on the wartime community. We are on the threshold of the air age. Schools must emphasize in their teaching the value of aviation not only in wartime but in the future era of peace. These young workers should be made junior CVD corps members in keeping with good educational practices.

Copies of the "War Records Handbook" and reprints of the local historian law which describe important aspects of the New York State War Records Program are available on request. Address the Division of Archives and History of the State Education Department, Albany 1, New York.

City Sinking Fund a Danger

Montreal Revises Its Financial Set-Up

By A. E. PERKS
Chairman, Montreal Municipal Press Gallery

WHEN the City of Montreal had written into its charter, a quarter century ago, a clause requiring it to establish a sinking fund for every bond issue that it put out, this was believed to be the means of saving the city from future financial troubles.

This year, the sinking fund is to be abolished. It proved a broken reed. This change is one of several that are to be made in the city's financial and accounting set-up, as a condition *sine qua non* of the refinancing of the city's $220,000,000 of funded and floating debt.

The changes have not only the approval of the city's administrators, of the city's Finance Director, Lactance Roberge, who is an able public accountant, and of the provincial (i.e., state) government finance department, but also of committees representing the city's bondholders in Canada, Great Britain, and the United States.

The sinking fund was supposed to ensure that there would always be money available to pay off any debt the city contracted, by the end of the contract period. It collapsed completely, when someone discovered the trick of creating a new bond issue, and having the sinking fund buy up the whole of the issue. When the debt is refinanced, some $40,000,000 of City of Montreal bonds that have been held in the city's sinking fund ever since they were issued, will be torn up.

Serial Bonds and Debt-Reduction

The sinking fund clause will be replaced by a new one, which will require all new bond issues to be on a serial redemption basis; so many millions to be redeemed each year, out of current revenue, the bonds to be drawn by lots. The new bonds which will replace the present debt will also be on a serial basis.

A debt-reduction fund will be created, into which will be paid a fixed proportion of any revenue surplus that may develop any year. Revenue surpluses are to be divided, so much to be available for capital expenditures, so much for reducing the debt ahead of schedule, so much for special reserves, and a limited amount available as current revenue for the following year if required.

"Unforeseen Needs"

In future, budgetary provision for special works must be for the exact amount the works are to cost. The former system of allowing a few hundred dollars over the estimated cost of every sewer, paving or sidewalk job as a "cushion" for unforeseen needs, disappears. It has been found to be an encouragement to the creation of "unforeseen needs."

A special appropriation is created for unforeseen needs, and is to be provided in each annual budget. This is available for such things as floods, epidemics and the like; also increases in the cost of foreign exchange over what is provided in the budget, and special contingencies for which the Executive Committee may not vote, in the aggregate, more than $150,000 in one year without the approval of the City Council.

Funds voted by the City Council in its budget for specified purposes, may not, in future, be diverted to any other purpose, except by a vote of the City Council.

Auditing

In addition to the continuous audit by the City Auditor, the city must have its books audited once a year by two outside auditors, chartered accountants of at least five years standing. They must certify that the city's finances have been handled during the previous year strictly in accordance with the stipulations of the charter. If they cannot so certify, they must notify the Director of Departments (practically the same office as City Manager) of the fact. If within 90 days he does not have the irregularity remedied, the auditors must report it to the Quebec Municipal Commission, a body created by the Quebec government for the control of all municipalities in the province; and that body has the responsibility and the authority to instruct the city administration as to how the irregularity may be straightened out, and to see that the instruction is put into effect.

A series of annual payments on interest and capital, varying from $14,000,000 down to $9,500,000 is provided, so that the city's present debt will be wiped out by 1976.

HOUGH

"HUFF" Tractor Shovels

Road Sweepers

Saves Manpower and Time on Many Jobs

Under average conditions, the Hough "HL" Payloader will handle up to 60 tons of bulk material per hour, loading from stock pile onto trucks. Equally speedy is its performance on other municipal work —street repairs, removing broken pavement, cleaning up debris, leveling garbage dumps, handling sewage sludge, piling and handling coal at the city lighting plant, handling pipe, sewer rings, hydrant and lighting standards, etc. The Payloader can also be used as a heavy duty drawbar tractor, either with shovel attached, or with a heavy duty bumper for pushing freight cars, etc. Available attachments include backfiller blade, crane hook and one-way snow plow.

The Payloader is a complete tractor unit—not a tractor attachment. The location of the engine—at rear over the drive axle—gives better balance and greater drawbar pull.

Write for Bulletin 144, which contains full information. Bulletin 143 describes smaller Model "HS."

THE FRANK G. HOUGH CO.
Libertyville, Illinois
"Since 1920"

●

Over 3,000 Hough Tractor Shovels Now in Service

At left is shown a Hough Hydraulic Shovel on an International Tractor. Hough also builds hydraulic and cable-operated shovels and loaders for use with Allis-Chalmers and Case tractors.

Newburyport's General Payrolls

Compiled by Addressing Machine

ON CERTAIN payrolls in every city and town the majority, if not all, items are the same month after month and even though the amounts may vary, the names remain the same. Numerous cities and towns print general payrolls and checks with mechanical equipment in a manner similar to the preparation of Old Age Assistance payrolls and checks. In some places, there are no hand operations at all on salary checks as even the date and the signature are imprinted mechanically. Such a place is Newburyport, whose City Treasurer follows this procedure:

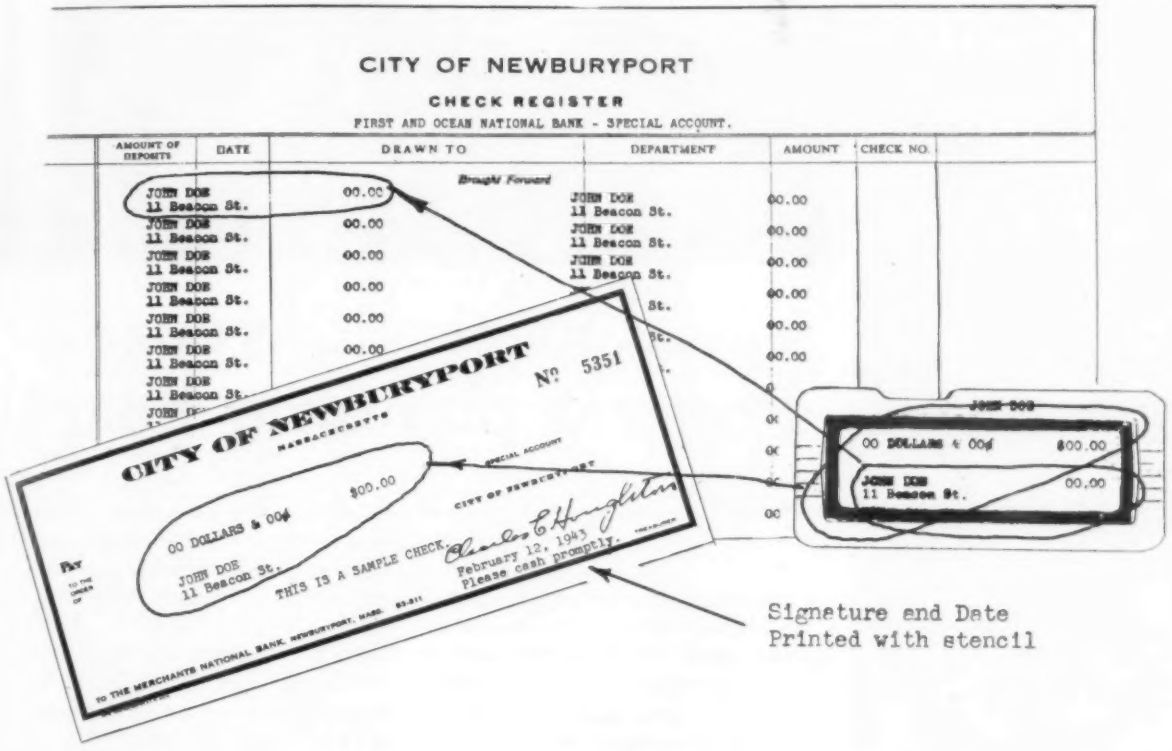
1. A stencil is made for each employee whose name appears on a regular payroll. These include policemen, firemen, school teachers, janitors.

2. When the payroll has been completed, approved and submitted to the treasurer, these same plates are used to print the checks.

3. The checks are then run through the machine again with a stencil which dates and signs them.

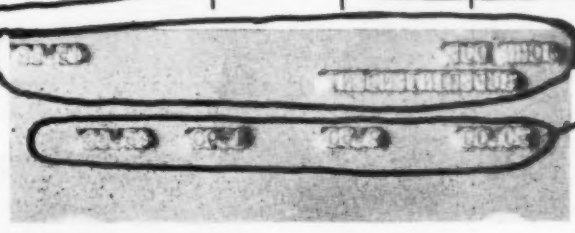
4. The check register is prepared from the same plates.

Including the Old Age Assistance

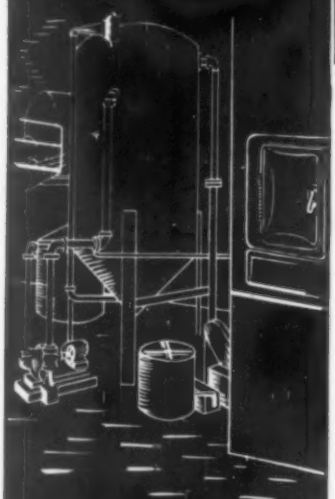


A PAYROLL FORM

NAME Position	NET AMOUNT	SALARY	DEDUCTIONS		NET AMOUNT
			Retirement	Victory Tax	
JOHN DOE SUPERINTENDENT	45.60	50.00	2.50	1.90	45.60



Let this man



. . . meet with your Postwar planning board

● He's an expert on municipal water conditioning . . . he has worked with hundreds of city engineers, consulting engineers, and planning committees . . . time and again his impartial advice and friendly assistance have been of real value in solving many municipal water conditioning problems. He's a Graver engineer . . . and his services are available to you without charge or obligation.

Postwar planning now calls for action. It's time to get those ideas on paper...to start the engineering and designing . . . to get estimates on the cost. All of that work can, and should be done now. Then, when the last shot has been fired and Victory is ours, there need be no delay in getting your equipment into production.

Tell us the nature of your project. There's a Graver engineer ready to help you . . . without obligation.

GRAVER

WATER CONDITIONING EQUIPMENT

Process Equipment Division of

GRAVER TANK & MFG. CO., INC.

4809-35 Tod Ave., East Chicago, Ind.

NEW YORK CATASAUQUA, PA. CHICAGO TULSA

Graver designs, builds, and installs water conditioning equipment of all types—Hot Process Water Softeners—Zeolite Water Softeners—Water Filters—Iron Removal Filters—Taste and Odor Removal Filters — Reactivators — Swimming Pool Equipment.

checks, Newburyport prepares approximately 25,000 checks a year with this completely mechanical procedure. In addition, approximately 20,000 more miscellaneous checks are signed and dated in this same way. The City Treasurer estimates that if he did not have this mechanical equipment, he would need at least two more clerks.

Newburyport does not use its stencils to print department payroll warrants except in the case of Old Age Assistance. In some other cities the treasurer, or other official in whose office the equipment is located, prepares payroll forms for each department.

It is possible to imprint on the payroll sheet or warrant the following data for each employee:

1. Name
2. Position
3. Weekly wage
4. Retirement deduction
5. Other deduction
6. Net amount to be paid

When the sheet with this information is turned over to the department head, it is only necessary to total the amounts and approve the payment. Then, when it comes back to the City Treasurer, he uses the same plates or stencils to print the checks.

Such a procedure eliminates virtually all manual work on regular payroll preparation, thus saving many hours of writing or typing in the various departments. It can be done wherever addressing machine equipment is available.

Comments Requested

Do readers want more articles on procedures and methods in municipal administrations?

ONE of THE AMERICAN CITY's subscribers, William Goldsmith of New York, has written to the editor, commenting favorably on an article in the January issue, "Yonkers Adopts New Method of Choosing Its Mayor," and adding:

"I have often wondered why such articles are not published more frequently. At a time when it is so necessary that municipalities show the way for the proper functioning of democracy at work, are not the administrative and civic problems just as important as the physical ones?

"Property assessments, per capita tax rates, educational costs, forms of municipal organization such as the city manager type of government, non-partisan ballots, elections by proportional representation—these are all subjects which are as vital to the make-up of a city as are its physical functions.

"Don't you feel that articles along this line would be of interest to your readers? An expression of opinion from them would be very enlightening."

While THE AMERICAN CITY has endeavored to report outstanding developments in these fields of municipal organization and administration, major emphasis has been consistently given to the physical improvement and upkeep of cities, towns, and villages, as being the principal concern of most of our readers.

In this connection, however, the following letter from another long-time reader, received almost simultaneously with Mr. Goldsmith's letter, is of special interest:

To the Editor of THE AMERICAN CITY:

Progress in cities may be divided roughly into two types: those that are visible to the eyes, and, those that are changes in methods and procedures.

In the first field you have in THE AMERICAN CITY a voluminous record in the form of articles, pictures, and maps.

The second is important also, but hard to make dramatic. Here are some suggestions as to directions in which future progress is especially needed:

1. An increase, and a recapture where lost, of local home rule. This should include home-rule in taxation.

2. It is admitted that certain types of taxation such as income and inheritance are, practically speaking, only collectible through state agencies. But the formulas through which the distribution takes place should, after being equitably arrived at, be immune to change by legislators and state administrators.

3. A diminution of the parochialism which demands that at the time of appointment an employee must have a local history.

4. A further spread of the "controlled executive" system—better known as the manager plan. Also a further spread of the principle that in the determination of municipal policies they shall be as near the unanimous agreement of all sections of public opinion as can be humanly arrived at: this would call for greater use of the Hare system of Proportional Representation for electing councils, and greater use of the "continuing advisory conference" idea, sometimes known as the Community Council. The whole idea behind this suggestion, which is simply the logical extension of the Town Meeting that arrives at its decisions by means of Robert's Rules of Order, functions better if Point 7, below, is carried out.

5. A further spread of the separation of the capital budget from the expense budget, and further spread of the "five years ahead" plan for capital improvements.

6. Greater use of the new type of municipal reporting. The use of the seniors of the high schools and students of institutions of higher learning within the locality to prepare or assist in preparing such reports.

7. The greater use of school buildings as the best neighborhood units to offset the "centralized" tendency which the municipal administration has, so that the schoolhouse becomes a tool (a) for adult education and (b) for adult *civic* education. Personally I like the Canadian system, in some provinces, of political education. At municipal elections the city pays the school authorities for the use of the schools and all candidates have the opportunity to talk to and be interrogated by the citizens, on equal terms.

8. As a temporary measure I would advocate that no local bonds be issued until the proper agencies of the federal government indicate that it is then opportune to pump more new money into the nationally circulating stream.

WALTER J. MILLARD
Field Secretary
National Municipal League

Readers are invited to comment on THE AMERICAN CITY's *editorial policy and to suggest subjects which they would wish to see treated more adequately in future issues.*

The Municipal Bond Market

Some sales of new issues as reported in March issues of *The Bond Buyer*:

Amount	Borrower and Purpose	Rate (%)	Term (Years)	Basis (%)
$1,008,000	Royal Oak, Mich., 1944 Refining	2.75	13.75 Avg.	2.7163
165,000	Lake Tp., Mich., School Refunding of 1944	2.5	6.66Avg.	2.958
150,000	Shenandoah, Pa., School District	2.5	11.33 Avg.	2.44
8,765,000	Los Angeles, Cal., Dept. of Water and Power, Electric Power Refunding Revenue Issue, 1944	1.75	4-25.33 O.—A.	1.7755
108,000	Lexington, Tenn., Electric System Revenue, Refunding Series A	2.0	7.66 Avg.	1.918
136,000	High Point, N. C. Public Improvement and Street Refunding	2.0	15 Avg.	1.997
135,000	Bergenfield, N. J., Refunding of 1944	2.20	7-8.80 O.—A	2.15
120,000	Gastonia Tp., N. C., Airport	1.5	1-12 Ser.	1.316
450,000	Bridgeport, Conn., Interceptor	1.0	9 Avg.	0.989
1,000,000	Pittsburgh, Pa., Refunding of 1944, Series A	1.0	1-20-Ser.	0.979
219,374	Kansas City, Kan., Funding	1.0	5-5 Avg.	0.853
1,250,000	Massachusetts, Commonwealth Airport —Boston Improvement	.5	5.5 Avg.	0.475
670,000	Worcester, Mass., Airport	.75	1-10-Ser.	0.677
479,000	Haverford Tp., Pa., Refunding	.85	9.75 Avg.	0.852

IN THE never-ending campaign against dirt and litter, the A-W Patrol Sweeper handles street and gutter rubbish with speed and thoroughness, and solves the problem of leaf removal by using the special "leaf broom" with which it can be equipped.

The Patrol Sweeper has won the approval of taxpayers on its record; low in first cost, inexpensive to operate and maintain, it is designed to do a thorough, safe, yet speedy job. It is effective in close quarters as well as on the widest streets; pays steady dividends in health protection, business stimulation and savings in sewer system maintenance.

In but a few years, this agile, dependable performer has won "sweeping victories" in hundreds of cities and towns throughout the world. Ask your nearby A-W distributor for full details on its record in communities with street cleaning problems like your own.

AUSTIN-WESTERN COMPANY, AURORA, ILLINOIS, U. S. A.

BUILDERS OF ROAD MACHINERY
Austin A Western
SINCE 1859

BUY MORE WAR BONDS

Where to Place Fire Extinguishers

A WATER, sewage, or municipal electric plant or any other industrial plant in town, even though well supplied with fire-extinguishing equipment, is not necessarily well protected against fire of internal origin.

In a war plant one morning recently, a leak occurred in the feed pipe from a tank containing a highly volatile flammable liquid. The liquid dropped to the floor making a nice puddle for starting a fire. And it did, spreading naturally to the drip and the tank itself. The fire extinguisher placed to protect the tank and the plant had been installed opposite the door back of the flaming tank which blocked all attempts to reach the fire-fighting equipment. The war plant was destroyed.

Keep These Rules

1. Locate fire extinguishers close to likely fire hazards.
2. Place them so that fire will not block access to them.
3. Locate enough units to deal with the severity of the blaze which might be expected, the rapidity with which it might spread, and intensity of heat.
4. Locate conspicuously that everyone will be familiar with locations.
5. Identify each unit for the type of fire it is designed to combat.
6. Protect from traffic. Don't put extinguishers unprotected in aisles where trucks, dollies, etc., will damage or knock them out of place.

By P. W. EBERHARDT
Walter Kidde & Co., New York

Install Correctly

An extinguisher can be useless if located where precious seconds are lost in getting to it and back to the fire. Workers should have ready access to extinguishers for immediate use following the discovery of a blaze. For instance, in a machine shop, see that extinguishers are put where they will be handy for the machine operator in case of fire in oil or motors. Don't locate extinguishers where spill fires are most likely to occur; put them just a little removed and somewhat out of the direction of the flow of the spill. Don't always place extinguishers at the end of aisles and don't locate them in stairwells. Flue action fans fire, preventing access to equipment.

In light-hazard occupancies, such as offices, schools, and public buildings, where incipient fire of minimum severity might be anticipated, units should be so located that a person will not have to travel more than 100 feet from any point to reach the nearest unit, but at least one unit should be supplied for each 5,000 square feet of floor. In ordinary combustible occupancies, such as department stores, warehouses, wood-working and paint-spraying plants, extinguishers should be within 50 feet of workers, one unit for each 2,500 square feet of floor.

Don't Put Them Too High

Most extinguishers should be placed so that their tops are not more than 5 feet above the floor. These include carbon-dioxide units with capacities of 10 lbs. or less; water under 5 gallons; foam-vaporizing liquid under 2 gallons; loaded steam, soda-acid, dry-compound and water and sand pails. Pails, however, should not have their rims lower than 2 feet above the floor. The 15- and 20-lb. carbon-dioxide, 5-gallon water or foam, and 2- and 3-gallon vaporizing-liquid types should have their tops not more than 3½ feet above the floor.

Carbon-dioxide and vaporizing-liquid types should be hung on hangers supplied by the manufacturer, while the others may be hung on ordinary hangers or set on brackets or shelves. Wheeled extinguishers, added where extra hazards require, should be accessible, and adjacent doorways and alleys must be kept clear.

Don't Hide Them

Wherever they are, make them conspicuous. A large red spot painted on the floor or aisles under the location of an extinguisher, or a vertical red band with yellow borders down a side wall or column where equipment is located act as constant reminders. Lights of distinctive color or signs "For Fire" with arrows pointing to extinguishers are other useful methods.

To identify equipment as to the type of fire it will combat, a decalcomania may be attached to the equipment or a stencil applied to the wall. When two or more extinguishers of different suitability are put in the same loca-

YOUR CALL FOR ACTIVE DUTY

Just as soon as it is "over, over there" millions of demobilized service men will look to you, and men like you, for jobs. It will be your turn to swing into action.

There exists today an accumulation of millions of dollars of deferred water and sewage works maintenance, rehabilitation, expansion, and other needed local public works. To have this needed work in BLUEPRINT FORM—READY FOR CONTRACT, is the responsibility of local planning and governing bodies.

We join the Committee on Water and Sewage Works Development in urging you, for the welfare of your community and the Nation at large, to determine tomorrow's needs and BLUEPRINT NOW!

MATHEWS HYDRANTS

400 CHESTNUT STREET, PHILADELPHIA, PA.

ESTABLISHED IN 1803

Made by R.D. WOOD Company

MANUFACTURERS OF SAND SPUN PIPE (CENTRIFUGALLY CAST IN SAND MOLDS) AND R. D. WOOD GATE VALVES

tion, don't leave room for guesswork; *mark each plainly.*

Good housekeeping is important; in addition to protecting extinguishers from traffic, keep boxes, cartons, or other material far enough away to allow ready access to all units. Also, see that extinguishers are not used for hat and coat racks and similar purposes.

Extinguishers Are *First*-Aid

And last but not least, instruct the fire brigade on the location of all units and acquaint them with the operation of each type of extinguisher. But don't rely wholly on first-aid equipment. Have direct fire-station pull boxes in the plant. Attack the fire as quickly as possible and always summon the fire department.

Carbon dioxide extinguisher fitted with new type bracket for securing it to running board of any fire truck

Municipalities Issue "Dividends"

STOCKHOLDERS in municipally owned utilities — the customers themselves, had a profitable year if experiences in several communities which own their own water and electric utilities are any gauge, the International City Managers' Association reports.

The following reports to the Association show that:

The Elizabeth, N. J., water board will divide an operating surplus of between $400,000 and $500,000 among consumers through rebates on bills for the first quarter of 1944. The large surplus is attributed mainly to increased industrial consumption of water.

Wyandotte, Mich., recently refunded to electricity consumers 10 percent of their net annual bill for the fiscal year ending last September. The city took this step rather than further reduce the low rates already in effect.

Ames, Iowa, cancelled all January 1944 electric and water bills, totaling more than $35,000 because of a large cash reserve in its utility fund.

The city-owned Kirkwood, Mo., light department will rebate the entire amount of the December electric bill of $21,000 to more than 4,100 consumers.

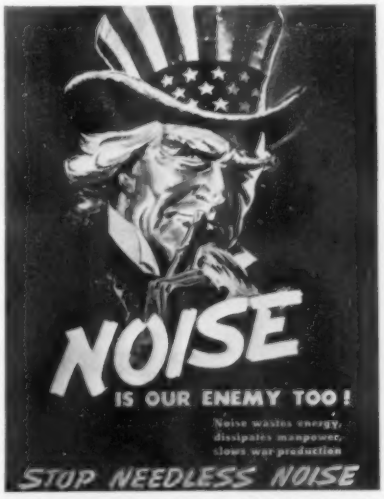
Three southern cities which bought Tennessee Valley Authority power last year paid consumer dividends in lieu of reducing rates. The cities were Athens, Ala., Tupelo and Columbus, Miss. The refunds totalled $10,003, $42,249, and $41,564, respectively.

Action of the communities, along with others cancelling or rebating utility bills in recent months, is the result in part of a greatly increased use of utilities—with consequent increase in revenues—while expenditures for maintenance remained fairly stable, or even declined.

This latter is due largely, the Association said, to the inability of utilities to obtain material and equipment to extend utility services to additional areas, and to deferred maintenance policies brought on by wartime restrictions.

Municipalities Enter Noise Abatement Contest

MUNICIPALITIES in various parts of the country are sending in their entries in the 1944 competition for the Achievement Award Competition conducted annually by the National Noise Abatement Council, according to a statement by F. Edgar McGee, Secretary of the Council.



Noise Abatement Poster Adopted by the National Noise Abatement Council for the 1944 Campaign

Below is a reproduction of this year's poster of the Council which will be displayed in cities, where local councils and committees are cooperating in the wartime program against needless noise. Police and safety departments in a number of cities conduct all-year-round campaigns against unnecessary bedlam in cooperation with the Council and its allied groups.

Mr. McGee announces that Official Noise Abatement Week this year will be held from April 30 to May 6.

City Bases Sewage Charge on Industrial Waste Characteristics

(Continued from page 57)

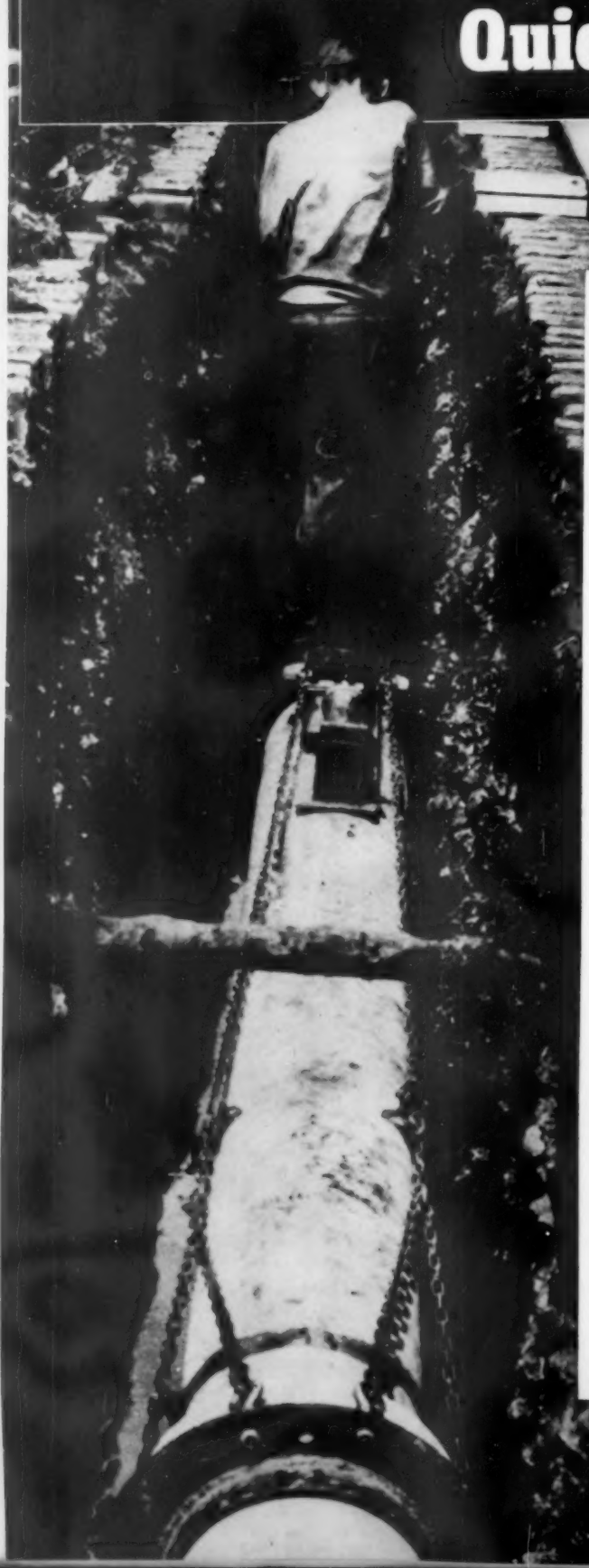
add to the solids that the municipal plant would have to handle, therefore aggrevating rather than solving the problem.

The ordinance provides that each industry whose estimated charge exceeds $1,000 per year must install a suitable device for continuously recording the flow discharged into the city system. For those industries whose annual charge will be smaller than this minimum charge, the volume will be computed on metered water consumption.

The amounts charged will vary from quarter to quarter with the volume of flow and quality of waste as determined from records, tests, samples, and analyses made in accordance with Standard Methods. It further provides that industries shall prevent undue changes in the characteristics of the wastes that might create excessively high cost of municipal treatment by reducing its peak discharges, constructing equalizing tanks, by partial pre-treatment or other methods, if necessary.

Articles printed in THE AMERICAN CITY *summarize the experience of city officials throughout the country. In order to further the spread of this information, all materials published in* THE AMERICAN CITY *may be reprinted without restriction, but publishers doing so are requested to credit* THE AMERICAN CITY.

Transite Pipe is Quickly Assembled!



EVEN inexperienced crews find it easy to assemble J-M Transite Pipe quickly, with the aid of the Simplex Coupling.

Other outstanding features that make Transite Pipe the preference of thousands of communities throughout the United States, as well as in hundreds of military camps and bases here and abroad are:

EASY HANDLING—Transite is light in weight. Mechanical equipment is needed only for larger sizes.

TIGHT, FLEXIBLE JOINTS are provided by Simplex Couplings. They allow deflections up to 5° at each joint, permit wide sweeps with straight lengths.

NO TUBERCULATION—because Transite is of non-metallic, asbestos-cement composition. Tubercles can never reduce its high flow coefficient (C=140).

LOW MAINTENANCE—The high corrosion-resistance of Transite, and the resiliency of the Simplex Coupling are features which contribute to Transite's low maintenance costs.

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JOHNS-MANVILLE *Asbestos*

Transite Pipe

FOR EFFICIENT, ECONOMICAL WATER AND SEWER LINES

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PRODUCTS

Plans for Post-War Projects Reported by 37 Additional Cities

This is the twelfth installment of brief reports from municipalities of over 10,000 population throughout the United States which have begun to plan for post-war public works or other improvements to be undertaken when materials and manpower become available. Previous replies (469 in number) to The American City's questionnaire on this subject have appeared in the issues of November and December, 1942, January, February, April, May, July, August, and September, 1943, and February and March of this year.

Question No. 1 asking if such planning were under way locally, brought almost no negative replies. The other four questions were:

2. *If so, what are the principal types of projects contemplated in these plans?*
3. *By what departments of the municipal government are such plans being made?*
4. *Does your municipality have a planning commission? If so, what responsibilities and powers does that agency have as to post-war planning?*
5. *Is your municipality setting aside any reserves, in war bonds or otherwise, for post-war public works?*

Answers to these four questions, from 37 municipalities not previously reporting, appear on this and the following page.

Adrian, Mich.

CLARKE W. BALDWIN, Mayor:

2. $268 water-pumping and filtration plant; addition to sewerage disposal plant; city's 80-acre airport to be converted into 260-acre city-county port; extensive paving and street repair program
3. Water Board, Airport Commission, Department of Public Works, and Planning Commission
4. Yes. General supervision and formulation of additional plans to those mentioned above. No plan considered unless accompanied by *feasible* financing program
5. Yes, in street and sewerage disposal funds for works mentioned above. $50,000 general fund in war bonds

Amesbury, Mass.

CHARLOTTE MOORE, Town Accountant:

2. New sewer construction; erection of a new Town Hall; annex to the high school; new junior high school
3. A special committee, appointed by the selectmen (ex officio members)
4. Yes. They are inactive and have been for three years
5. Yes, in war bonds

Arlington, Mass.

HALLAM T. RING, Chairman Committee on Advanced Programming and Planning:

2. Highways; sewer and water extensions; schools; deferred maintenance; additions to fire and police plant and equipment
3. All departments in conjunction with above named committee
4. Yes, a Planning *Board*. To originate and cooperate with all departments except as to fiscal planning
5. Yes

Asbury Park, N. J.

J. OLIVER ARMSTRONG, City Manager:

2. Water system; school repairs; boardwalk; streets resurfaced
3. ———
4. In process of forming. Ordinance was passed on the final reading, Feb. 14
5. Yes, in War Bonds

Attleboro, Mass.

J. W. MCINTYRE, Mayor:

2. Trade school building; water extensions; parkway
3. Public works and school
4. Yes, advisory. A special post-war committee has been formed.
5. Yes

Austin, Minn.

T. B. ROCKNE, Mayor:

2. Resurfacing and widening old pavements; addition to sewage treatment plant; utilization and disposal of sludges; additional warehouse—storage building; storm and sanitary sewers; airport; additions to municipal light and power plant
3. Engineering Department is making the plans for the city project. The Municipal power plant furnishes its own engineers.
4. Survey projects suggested, list those of utmost importance first, and from time to time keep the public informed as to developments in post-war planning.
5. Yes. Reserves have been set aside from the sale of electrical energy, water, gas, and heat. Our water and light plant is planning the expenditure of approximately $750,000 in addition to present plant, new water and gas mains, etc.; the municipality itself has set aside $120,000 for street widening, storm and sanitary sewers; $135,000 bond issue has been passed by the people for purchase of airport site.

Billings, Mont.

H. E. BIDDINGER, Mayor:

2. Additional water main from the plant to the distributing system; sewage-disposal plant; general street improvements; consideration of a municipal auditorium and a new library
3. City Council has general supervision, in conjunction with the City Engineer
4. Yes. So far, just the planning and study of what we should have. This Board is an adjunct to the Mayor's office.
5. Yes

Braintree, Mass.

MARJORIE H. BICKFORD, Secretary to Board of Selectmen:

2. Sewer; highway; library
3. Post-War Public Works Committee
4. Yes. Has a representative on above-named committee
5. Yes, in war bonds

Cambridge, Mass.

JOHN B. ATKINSON, City Manager:

2. Public works and public buildings
3. Special Planning Board of city department heads
4. Yes. Preparation of blue prints and estimates
5. Yes (cash surplus)

Chelsea, Mass.

FRANCIS J. DOWD, Secretary, Planning Board:

2. Improvements to municipal buildings, park system, streets, field houses, and general repairs to all city property. New fire station
3. Building and Park Departments and City Engineer
4. Yes. All projects concerning post-war must be approved by the Planning Board.
5. No

Grand Rapids, Mich.

WALTER H. SACK, City Manager:

2. Street improvements; street widening; sewers; water mains; fire stations; swimming pools; bridges; grade separations; playgrounds; isolation hospital; water tanks; tennis courts; police pistol range; fire drill tower; markets

Gulfport, Miss.

IVAN BALLENGER, Commissioner and City Clerk:

2. Sanitary sewer system; city-wide street improvements; extension of water mains, additional fire plugs, etc.; repairs to City Hall; fire and police stations
3. Mayor and Board of Commissioners
4. No. This work will be done by the Mayor and Board of Commissioners with the responsibility and powers given to them through their office.
5. Yes, in some funds: bonds will have to be issued and sold for part of this work.

Hempstead, N. Y.

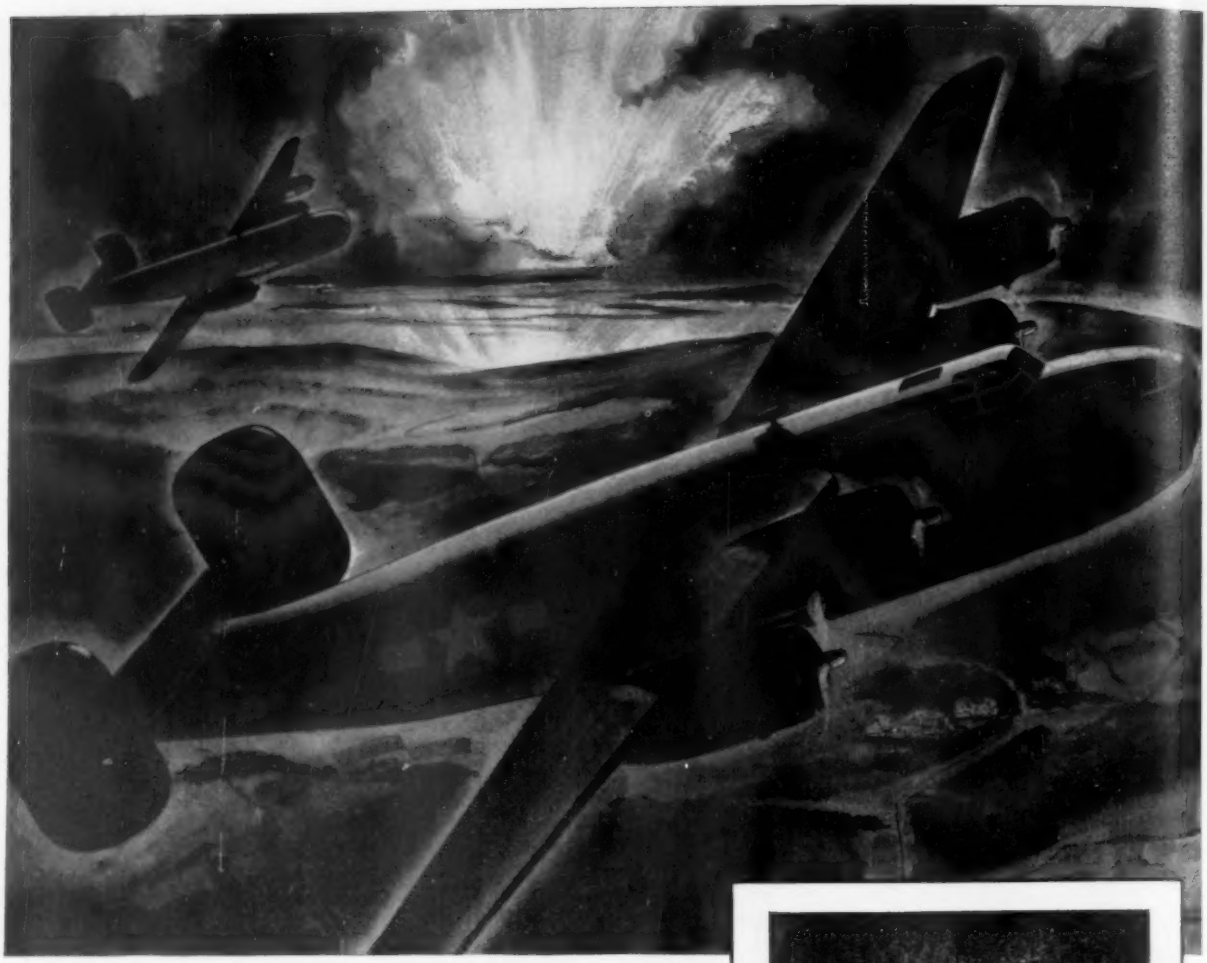
HERBERT MIRSCHEL, Mayor:

2. Municipal building (conversion of present USO building); curb, gutter and street improvements
3. Engineering Department with an outside architect
4. Yes, advisory
5. Possibly in 1944-45 budget

Hibbing, Minn.

C. A. AURA, Village Recorder:

2. Water main extensions; street paving and sidewalk construction; storm and sanitary sewer construction; new public buildings; new boulevards; and airport improvements
3. Village Engineering Department
4. No. The post-war plans will be directed by the Village Council through the office of the Village Engineer, and possibly cooperating with the Water, Light, Power and Building Commission
5. A fund of $200,000 has already been set up.



Oh How They HAVE To Get Up In The Morning

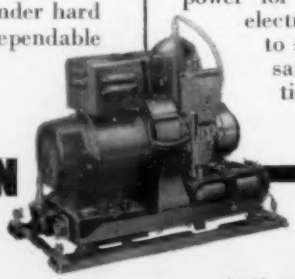
Bombers never sleep late. No sir! It's up at the crack of dawn . . . up for a crack at the enemy. And during the warming up period, when bombers get their "shave and shower," you hear the steady hum of the good old "putt-putts" . . . the Homelite Portable Generators that pour out juice for charging batteries and testing electrical equipment on those giant fighting birds.

And don't forget this . . . ground crews, the men who groom the planes, demand top-notch performance and reliability. Failures drive them nuts. And the specifications handed down for the equipment they use are a challenge to manufacturers.

Yet, here at Homelite, we're making gasoline-engine-driven generators that meet these needs . . . so light-weight, they can be carried in the plane . . . so compact, they can be moved anywhere at the base. Strong, durable generators that stand up under hard usage. Powerful ones, that generate plenty of current. Dependable Homelites, that operate in any climate.

Oh how they'll HAVE to get out at night

After the war, Homelites will be back on the old stand . . . making many new friends . . . by furnishing power for brilliant floodlights and electric tools, so necessary to speed work and increase safety on night construction and emergency repairs.



HOMELITE CORPORATION
PORT CHESTER, NEW YORK

Menominee, Mich.

B. W. DELCOFFE, City Clerk:
2. Sewers; streets; buildings
3. Special Advisory Planning Commission for submission to the City Council
4. Yes. No powers. Preparing plan for submission to the City Council
5. $25,000 in war bonds

Marblehead, Mass.

W. F. BRAGDON, Town Clerk:
2. Construction of a fire-alarm building; construction of sanitary sewers
3. Not yet
4. Yes. Handled by the Post-War Planning Committee
5. Yes

Merced, Calif.

J. J. GARIBALDI, City Clerk:
2. Building new City Hall, fire house, police station, swimming pools in two parks, tennis courts, baseball diamond; widening streets, paving, etc.; enlarged sewer system; uniform system of tree planting
3. Police, Fire, Street and Park Departments
4. No
5. Yes

New Brunswick, N. J.

M. W. TAYLOR, City Engineer:
2. Extension and improvement of streets, parks, and water works
3. City Engineers Office
4. Yes. Full power to propose projects
5. ———

North Attleborough, Mass.

AUGUST R. FUNKE, Town Treasurer:
2. Water mains; sewer mains; 8-room schoolhouse; concrete bleachers at playground; widening of highways and installation of permanent sidewalks; improvements to fire station.

Nutley, N. J.

EDGAR SERGEANT, Chairman, Town of Nutley Planning Board:
2. Additions and improvements to streets, parks, playgrounds, and certain buildings
3. Partly by the Planning Board, partly by the Department of Public Works and possibly by consultant
4. Yes. Whatever is conferred by the "model" ordinance of the State of New Jersey
5. A reserve was set up last year and the same will probably be done this year.

Ontario, Calif.

TAYLOR M. PETERSON, Mayor:
2. Sewage disposal plant enlargement; administration building; hangars for municipal airport; reservoir roof replacements; water-system improvements; street-paving program
3. City Engineer—Neal D. Smith
4. Yes, advisory
5. Yes

Owosso, Mich.

J. EDWIN ELLIS, Mayor:
2. Community center for all athletic activities; addition to Memorial hospital; additional swimming pool and skating rinks
3. City Commission
4. ———
5. No

Plymouth, Mass.

ALLEN D. RUSSELL, Chairmen of Post-War Public Works Planning Committee:
2. Water system; highways; park developments
3. Water Department, Highway Department, Park Department, Planning Board, and above named post-war committee
4. A Planning *Board*. The Selectmen appointed the Chairman of the Planning Board as chairman of the post-war public works planning committee with free hand to appoint committee members. He appointed the planning-board members and the heads of the appropriate departments as members of his committee.
5. Yes

Pontiac, Mich.

LEWIS M. WRENN, City Engineer and Assistant City Manager:
2. Public buildings; sewers; drains; water works; paving; grade separations, etc.

Portland, Maine

GEORGE HARRISON, Chairman, City Council:
2. Streets; recreation; parks
3. Public Works, Recreational and Park Departments
4. They make surveys and submit same to City Council for study and action.
5. Yes

Rochester, Minn.

PAUL A. GRASSLE, Mayor:
2. Sewage disposal remodeling; 3 new bridges; curb and gutter improvements; street widening; addition of light plant
3. Council and Utility Department of the city
4. Yes. Post-War Planning Committee appointed by City Council and County Commission
5. Yes

Sacramento, Calif.

E. B. SHERWIN, City Manager:
2. Installation of parking meters in business district; new sewage treatment plant; municipal theater; Broadway bridge; civic center; deep-water channel; removal of Western Pacific tracks; new Hall of Justice; health center
3. City Council, various departments of the city, City Manager
4. Yes, City Council. Considers suggestions from its members, City Manager, and various department heads
5. Long term bond issue probable. Hope to finance public works through direct taxes, installation of parking meters, and established sewage charge.

Santa Monica, Calif.

L. J. MURRAY, Mayor:
2. Harbor development; airport extension and development; beach development; sewer installation; storm drains; canning project
3. Engineering Department, Finance Department, and our own Department of Public Safety
4. Yes. No special responsibilities or powers
5. Yes. We also expect Federal Aid as we are a vital coastal area and have important defense projects here.

Sioux City, Iowa

MRS. C. E. PALMER, Executive Director, Planning and Zoning Commission:
2. Express highways; new Missouri river front park; city hall; municipal auditorium; street improvements; sewer improvements
3. Engineering and Public Affairs Departments
4. Yes. Responsibility of planning, cooperation with all other departments and advisory power to city council
5. About $800,000 in bonds

Stockton, Calif.

LYLE PAYTON, City Engineer:
2. Street pavements; sewage plant enlargement; grade separations
3. City Engineer
4. Yes. Designated as agency for preparing and recommending a list of post-war projects
5. No

St. Cloud, Minn.

WILLIAM R. BURKHARD, Commissioner, Finance and Accounts:
2. Disposal plant; park improvement; grade separations; city garage; additional sidewalk and curbing
3. Water and Engineering Departments
4. Yes, advisory
5. Getting all funds in shape

Statesville, N. C.

J. WESLEY JONES, Mayor:
2. Street improvements; extension water mains; sewage
3. City Board
4. No
Yes

Struthers, Ohio

W. A. STRAIN, Mayor:
2. Incinerator; bridge for grade elimination; street paving sewers
3. Council
4. No
5. No

Tallahassee, Fla.

M. N. YANCEY, City Manager:
2. Utility extension and improvement including water, gas, and electric; street improvements; hospital; sewage extension
3. Engineering Department
4. We have no commission.
5. Yes

Terre Haute, Ind.

V. R. McMILLAN, Mayor:
2. Construction of sewage disposal plant; addition to our sewage system; construction of our hospitals and schools, including two colleges; extension of city boundaries; building and improving of streets, and expansion of private industry
3. School city; park district; Board of Public Works; city engineers; and a group of private citizens who are aiding materially in most of the above projects.
4. Yes. Our planning commission has full authority in the zoning and planning of municipal improvements, but the real weight of post-war must be done by volunteers who, working well together, coordinate all of the above projects.
5. There is an Indiana law by which we are not permitted to set aside reserves for any purpose.

Valley Stream, N. Y.

PERCY B. SPRAGUE, Superintendent of Public Works:
2. Sewage treatment plant; resurfacing of Shaw Avenue; construction of storm-water drains; municipal garage; parking fields; bituminous shoulders; concrete shoulders; intersections; fire house
3. Engineering
4. No

Weymouth, Mass.

HARRY CHRISTENSEN, Chairman of the Board of Selectmen:
2. Installation of a sewage system; school building program; water-works program; general repair and improvement program for streets; public buildings
3. School, Water, Stree. and Park Departments
4. Yes. The Post-War Committee has been set up and is functioning, but its powers have not yet been established.
5. Yes

Planning Post-War Expansion

Water Works officials are already planning to cope with the increased demand for domestic water services that will be laid in their laps upon the resumption of building.

As in the past, the wise official will standardize on Hersey Water Meters, knowing full well their high quality, accuracy of registration and extremely low maintenance cost.

For more than fifty years, Hersey has been one of the leading producers of water meters.

HERSEY MANUFACTURING COMPANY, SOUTH BOSTON, MASS.

BRANCH OFFICES: NEW YORK — PORTLAND, ORE. — PHILADELPHIA — ATLANTA — DALLAS
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Wartime Water Rates--VIII

Interesting this month are the data from Virginia, Minn., showing that although rates represent an increase of about 300 percent over those previously in effect, the charge for the first block is only 24c per 100 cubic feet keeping it well within the low-rate bracket.

San Diego, Calif.

Rates:

The monthly minimum rates for strictly domestic service within the corporate limits are as follows:

For ⅝" and ¾" meters	$1.10 per month
" 1" and 1½" "	1.65 " "
" 2" meters	2.20 " "
" 3" "	3.30 " "
" 4" "	4.40 " "
" 6" and larger	5.50 " "

The minimum monthly rate for all water furnished through a meter outside the corporate limits is as follows:

For ⅝" and ¾" meters	$1.65 per month
" 1" and 1½" "	2.20 " "
" 2" meters	2.75 " "
" 3" "	4.40 " "
" 4" "	5.50 " "
" 6" "	6.60 " "

The charge for fire hydrants within the corporate limits is $1.50 per month per hydrant and outside the corporate limits, $2.50 per month per hydrant. All water furnished to the various departments of the city is measured by meter, when so ordered by the city manager, and all water so used is charged to their respective budget accounts and paid for monthly from such funds.

The monthly minimum charge for all fire services not connected or used for ordinary daily usage, is $1.50 per month within the corporate limits and $2.50 per month outside the corporate limits.

Water rates are fixed for construction work depending upon the volume or area included in the project. Rates for water furnished for any use or purpose whatever within the corporate limits where special construction rates are not provided are as follows:

For the first 500 cu. ft. per meter per month, $.22 per 100 cu. ft.
For the next 4,500 cu. ft. per meter per month, $.209 per 100 cu. ft.
For the next 5,000 cu. ft. per meter per month, $.198 per 100 cu. ft.
For the next 10,000 cu. ft. per meter per month, $.187 per 100 cu. ft.
For the next 30,000 cu. ft. per meter per month, $.132 per 100 cu. ft.
For the next 50,000 cu. ft. per meter per month, $.11 per 100 cu. ft.

Water furnished for any use whatsoever outside the corporate limits where rates are not provided is 27½c per 100 cu. ft.

General Data:

Estimated population—390,000
Services (all metered)—53,626
Housing projects, military, and industrial plants have large meters
Hydrants—3,169
Miles of mains—641
Supply—impounding reservoir
Treatment—rapid sand filtration, half through pressure filters
Tap water—140* ppm $CaCO_3$, pH 7.6*
Average consumption—39.3 mgd
Filter plant capacity—40 mgd
Maximum delivery capacity—85 mgd

Consumer Costs Per Month: (net):

		Minimum
3,740 gals.	(500 cu. ft. min.)	$1.10
5,000 "	(667 " " ")	1.45
10,000 "	(1,333 " " ")	2.84

* Approximate.

Present rates represent a 10 per cent rise over those published in THE AMERICAN CITY for August 1934. These rates have been in effect for some time and are keeping the Water Department on a self-supporting basis.

WALTER W. COOPER
City Manager

Rockford, Ill.

Rates:

All bills subject to 5 percent discount if paid within 10 days.

Size Meter	Quar. Min.	Quar. Min. Bill
⅝"	700 cu. ft.	$2.25
¾"	1,100 " "	4.05
1"	2,000 " "	7.20
1½"	2,500 " "	9.00
2"	4,000 " "	14.40
3"	5,000 " "	18.00
4"	10,000 " "	36.00
6"	15,000 " "	54.00
8"	30,000 cu. ft.	$108.00
Next	400 " "	above min. @ 25c/100 cu. ft.
"	" " "	@ 15c/ " " "
"	500 " "	@ 10c/ " " "
"	30,000 " "	@ 7c/ " " "
"	50,000 " "	@ 5c/ " " "
"	200,000 " "	@ 3c/ " " "
All over above		@ 2c/ " " "

General Data:

Population served—97,000
Services—22,223
Meters—19,043
Hydrants—1,562
Miles of mains—226
Supply—wells
Treatment—chlorination only
Tap water—300-350 ppm $CaCO_3$ soap hardness
Average consumption—10 mgd
Plant capacity—20 mgd low lift—40 mgd high lift (available for short periods if storage is drawn upon)

Consumer Costs Per Month:

(For ⅝" meter)

3,000 gals.	(400 cu. ft.)	$1.15
5,000 "	(667 " ")	1.40
10,000 "	(1,333 " ")	1.90

These rates represent a boost to residential consumers, since three blocks have now been inserted above the minimum. Block rates were established in 1937 to encourage industry to use city water. Revenues this year will be in the neighborhood of $400,000 which will enable us to meet operating, capital, and fixed expense.

H. S. MERZ,
Superintendent.

Virginia, Minn.

Rates:

First	10,000 cu. ft.	24c per 100 cu. ft.
Next	10,000 " "	18c " " " "
All over	20,000 " "	15c " " " "

The minimum monthly charge is 25c and all bills are subject to a discount of 10 per cent if paid on or before the 16th.

The charge for tapping the main for a new service is $1.00. The city installs a copper service pipe and curb cock at the property line, the customer installing the remainder of the service to the house.

There are 50 fire hydrants rented at $50 each per year, 50 at $80 each per year, and 61 hydrants at $60 each per year. There are no private fire hydrants.

General Data:

Population served—12,800
Number of services—3,031
Number of hydrants—182
Number of meters—2,859
Miles of water main—42
Supply—mining shaft
Treatment—rapid sand filter
Tap water—175 ppm $CaCO_3$
Plant capacity—3 mgd
Average consumption—1 mgd

Consumer Costs Per Month (net):

3,000 gals.	(400 cu. ft.)	$ .86
5,000 "	(667 " ")	1.44
10,000 "	(1,333 " ")	2.88

The rates represent a marked increase of about 300 per cent over those previously recorded for this city appearing in THE AMERICAN CITY for May 1935. The increase was caused by the necessity of changing the source of supply.

M. C. BRIGHT, Superintendent
Water and Light Commission

Adrian, Mich.

Rates:

(On Step Basis.)

1 to 4,000 cu. ft. per month, 24c per 100 cu. ft.
4,000 to 8,000 cu. ft. per month, 18c per 100 cu. ft.
8,000 to 16,000 cu. ft. per month, 15c per 100 cu. ft.
16,000 to 120,000 cu. ft. per month, 12c per 100 cu. ft.
120,000 to 600,000 cu. ft. per month, 9c per 100 cu. ft.
Over 600,000 cu. ft. per month, 6c per 100 cu. ft.

There is a minimum charge of $2.50 per quarter for all metered services in Adrian, and a discount of 10 per cent is allowed for payment within ten days from date of bill. Residential meters are read quarterly, and commercial meters are read monthly.

The municipal-meter rate, paid by all city departments using water, is 12c per hundred cubic feet for any quantity used. The city pays the Water Board $25 per year for each fire hydrant. There is a

Waterboy

...FOR SALT LAKE CITY

Another Chapman goes to work!

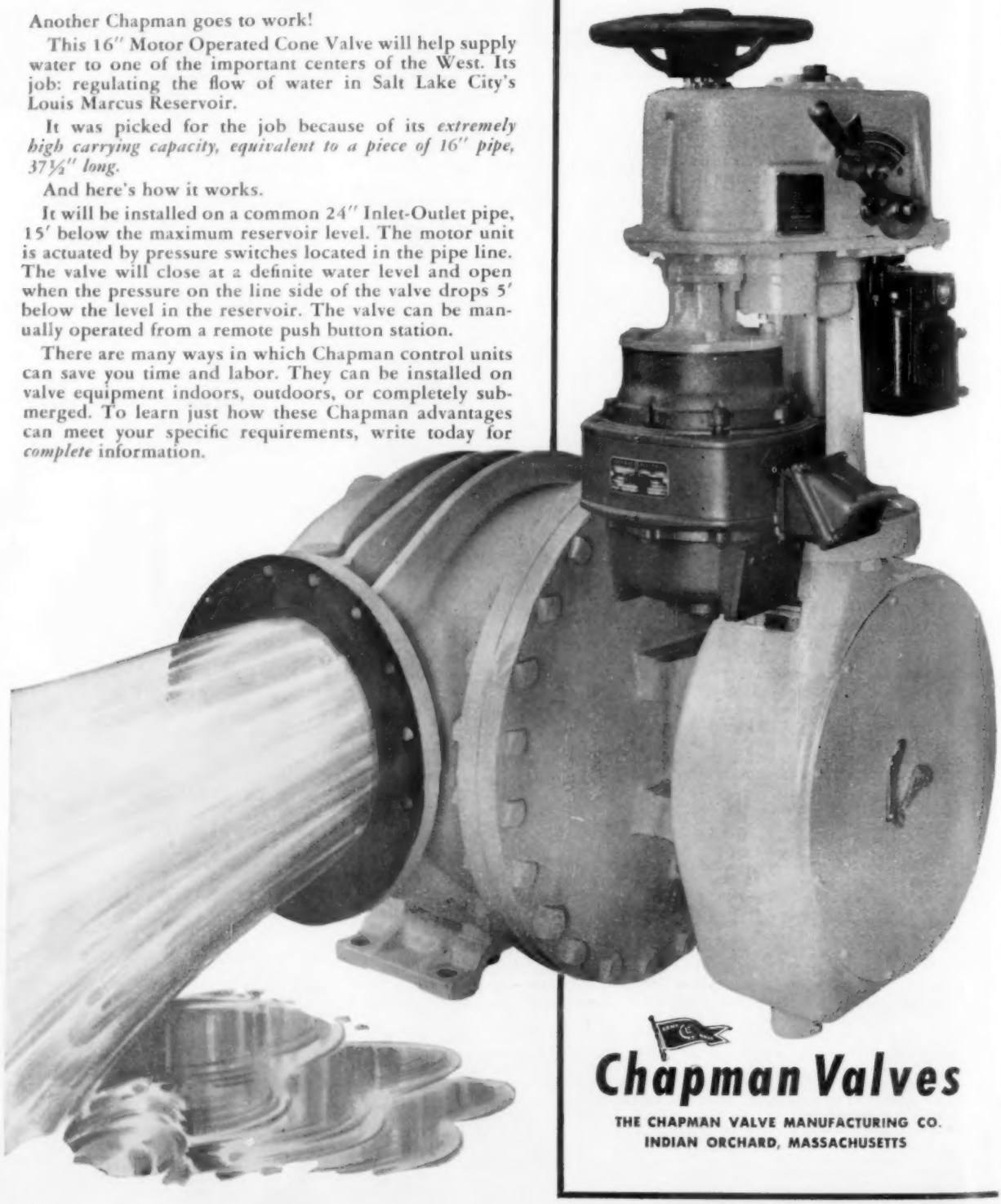
This 16″ Motor Operated Cone Valve will help supply water to one of the important centers of the West. Its job: regulating the flow of water in Salt Lake City's Louis Marcus Reservoir.

It was picked for the job because of its *extremely high carrying capacity, equivalent to a piece of 16″ pipe, 37½″ long.*

And here's how it works.

It will be installed on a common 24″ Inlet-Outlet pipe, 15′ below the maximum reservoir level. The motor unit is actuated by pressure switches located in the pipe line. The valve will close at a definite water level and open when the pressure on the line side of the valve drops 5′ below the level in the reservoir. The valve can be manually operated from a remote push button station.

There are many ways in which Chapman control units can save you time and labor. They can be installed on valve equipment indoors, outdoors, or completely submerged. To learn just how these Chapman advantages can meet your specific requirements, write today for *complete* information.



Chapman Valves

THE CHAPMAN VALVE MANUFACTURING CO.
INDIAN ORCHARD, MASSACHUSETTS

charge of $15 per year for each automatic sprinkler system used for fire protection with 6- or 8-inch supply connections.

General Data:

Population served—17,000
Number of services—3,959
Number of meters—3,924
Number of hydrants—205
Miles of water mains—46
Supply—creek with wells for standby
Treatment—rapid sand filtration
Maximum plant capacity—3 mgd
Average daily consumption—2.5 mgd
Raw water—300 ppm $CaCO_3$

Consumer Costs Per Month:

3,000 gals.	(400 cu. ft.)	$ .86
5,000 "	(667 " ")	1.44
10,000 "	(1,333 " ")	2.88

These rates represent a reduction of more than one-third below those published in THE AMERICAN CITY for 1935. The water system is self-supporting and we do not anticipate any change.

DON MATTHES
Secretary, Water Board

Lawrence, Kan.

Rates:

First	2,000 gals. or less	$ .90	
"	3,000 " " "	1.30	
Next	7,500 " " "	.378	per 1,000 gal.
"	7,500 " " "	.36	" " "
"	7,500 " " "	.342	" " "
"	7,500 " " "	.322	" " "
"	7,500 " " "	.306	" " "
"	7,500 " " "	.288	" " "
"	7,500 " " "	.27	" " "
"	7,500 " " "	.252	" " "
"	7,500 " " "	.234	" " "
"	7,500 " " "	.216	" " "
"	7,500 " " "	.198	" " "
"	7,500 " " "	.18	" " "
"	7,500 " " "	.162	" " "
"	7,500 " " "	.144	" " "
"	7,500 " " "	.126	" " "
All over	115,500 gals.	.108	" " "

Charge to customer for a new water-service connection, which includes cost of material and labor from main to parking in front of property is as follows:

¾" service	$22.25
1" "	30.00
1½" "	38.25
2" "	49.00

Meters are furnished and owned by the Water Department at no cost to the customer.

Hydrant rental for public fire hydrants, $22.50 per hydrant per year.

There is no charge for service lines for sprinklers for fire protection.

General Data:

Population (not including Kansas University students)—15,300
Number of services—4,450
Number of meters—4,450
Number of hydrants—289
Number of valves—484
Miles of water mains including 2" and larger—54.43 miles
Supply—Kaw River
Treatment—excess lime softening stabilized with recarbonation and Calgon
Raw water—278 ppm $CaCO_3$
Tap water—131 ppm $CaCO_3$
Average consumption—1.6 mgd
Plant capacity—3 mgd

Consumer Costs Per Month:

3,000 gals.	(400 cu. ft.)	$1.30
5,000 "	(667 " ")	2.06
10,000 "	(1,333 " ")	3.95

This represents a 10 per cent reduction below rates for this city appearing in THE AMERICAN CITY for July 1935. The Water Department is progressing very well financially, with most of the bonds paid and slightly more than $50,000 outstanding at this time.

FRANK E. WILLEY
Superintendent

Amesbury, Mass.

Rates:

Bills are rendered semi-annually in April and October
Minimum—5.25, allows 1,950 cu. ft.—6 months
Minimum to 30,000 cu. ft., $.27 per 100 cu. ft.
30,000 to 60,000 cu. ft., $.225 per 100 cu. ft.
60,000 to 1,000,000 cu. ft., $.18¾ per 100 cu. ft.
Over 1,000,000 cu. ft., $.16½ per 100 cu. ft.

Bills are discounted 33⅓ per cent for payment within 30 days. The Department receives $6,000 per year from the town for hydrant rental.

General Data:

Population served—10,862
Services—2,490
Meters—536
Hydrants—282
Miles of mains—30
One cement covered reservoir—capacity 1.5 mg; one open reservoir—capacity 1.5 mg
Supply—133 2½-inch driven wells
Treatment—aeration and coke trays slow sand filters for iron removal.
Raw water—75 ppm $CaCO_3$, 6.8 Fe, .55Mn, pH 6.7
Tap water—65 ppm $CaCO_3$, 0.17Fe, 0.01Mn, pH 7.0
Average consumption—0.85 mgd
Plant capacity—1.5 mgd

Consumer Costs Per Month:

3,000 gals.	(400 cu. ft.)	$ .72
5,000 "	(667 " ")	1.20
10,000 "	(1,333 " ")	2.40

This represents a reduction in rates of nearly 25 per cent below those that appeared in THE AMERICAN CITY for November 1937. Reduced rates went into effect this year. We are, and expect to continue to be self-supporting.

PATRICK J. DORAN,
Commissioner—Chairman.

Bangor, Me.

Rates:

Size Meter	Cu. Ft. Quarter	Rate Per Quarter
¾"	2,600	$4.50
1"	3,000	5.00
1½"	5,700	9.00
2"	8,600	12.50
2½"	11,500	15.00
3"	13,200	18.00
4"	20,000	25.00
6"	48,800	50.00
8"	100,000	100.00
10"	187,500	150.00
12"	250,000	200.00

For the first 100,000 cubic feet, or any part thereof over the allowance indicated above, rate per 100 cubic feet, $.07.

For all over the first 100,000 cubic feet, rate per 100 cubic feet, $.05.

All water rates are due and payable on the first day of January, April, July, and October. If bills are not paid within 15 days thereafter, the rates are increased 10 per cent of the original amount. Any rate remaining unpaid 30 days from the date of the bill, is considered sufficient cause for the discontinuance of the service, and the service is not turned on again until all charges have been paid, with a penalty of $1.00.

All private fire-protection service is installed by the board, which determines the best location for the line and lays the pipe from the street main to a point just inside the wall of the building, or within the building line of open yards. No single connection for sprinkler service is made larger than 6" in diameter.

General Data:

Population served—30,000
Services—6,540
Meters—230
Hydrants—456
Miles of mains—70
Supply—Penobscot River
Treatment—rapid sand filtration, hydrated lime for corrosion control
Tap water—58 ppm $CaCO_3$
Average consumption—3.9 mgd
Plant capacity—8 mgd

Consumer Costs Per Month:

3,000 gals.	(400 cu. ft.)	$1.50
5,000 "	(667 " ")	1.50
10,000 "	(1,333 " ")	1.79

This is an increase over those rates recorded previously (see THE AMERICAN CITY, Dec. '35). If prices remain as they are, we will not be able to hold the line with our present revenue and do the work necessary to replace and repair our equipment at the plant and distribution system.

A. W. READ,
Superintendent.

Waltham, Mass.

Rates:

All water used up to 6,000 cu. ft. in any one quarter is charged at the rate of 22 cents per 100 cu. ft. All water over 6,000 cu. ft. per quarter is charged at 13 cents per 100 cu. ft. A minimum rate per year is charged for each service.

1 faucet—minimum	$5.00 per year
2 faucets "	8.00 " "
3 faucets or over—minimum	10.00 " "

A meter rental is charged on all supplementary meters, and on meters 1½" and over in size.

General Data:

Population served—40,250
Number of services—7,137
Number of meters—7,619
Number of hydrants—875
Miles of water mains—100
Supply—wells
Treatment—chlorination
Tap water—57 ppm
Average consumption—3.5
Plant capacity—10 mgd

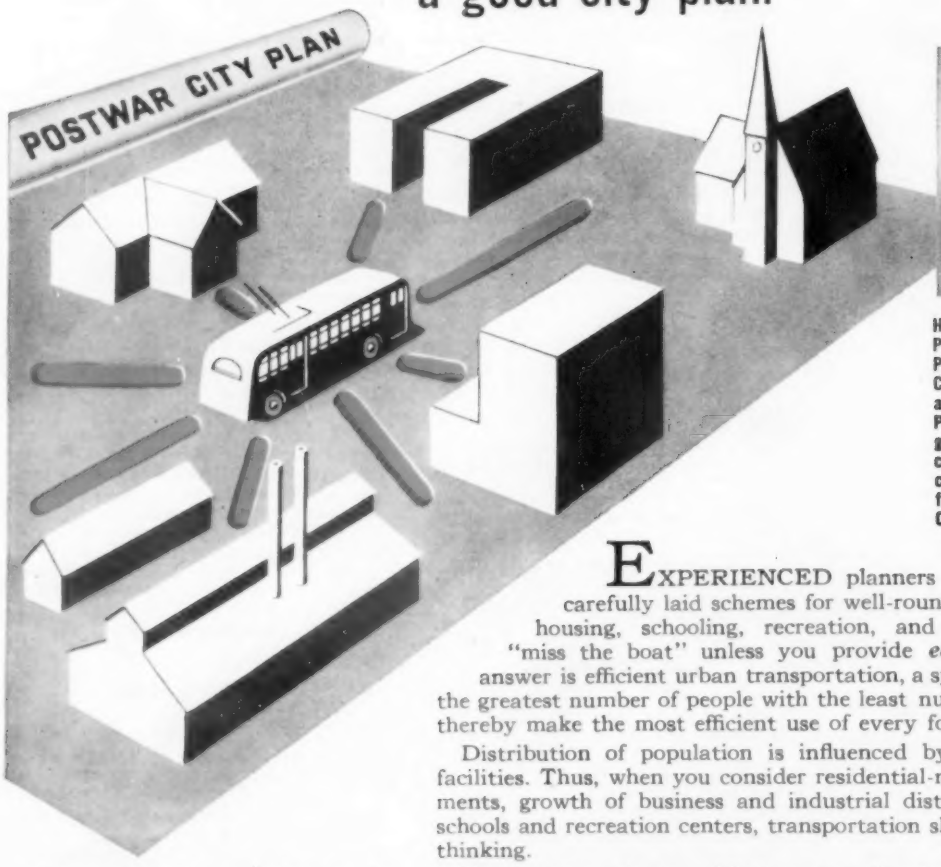
Consumer Costs Per Month:

400 cu. ft.	$ .88
700 " "	1.54
1,300 " "	2.80

This is an increase of 8 per cent over the rates previously recorded in June 1935. Up to and including 1942, the Water Division operated on its own revenue. By direction of the State Auditors, all appropriations in 1943 were made from taxation and all revenue goes into the general fund.

HENRY F. BEAL,
City Engineer and Director.

Harland Bartholomew says: "A well-planned local transportation system is an indispensable part of a good city plan."



HARLAND BARTHOLOMEW—Past President of American City Planning Institute and National Conference on City Planning; author of *Urban Land Uses*; Planning Director, St. Louis Regional Planning Association; and consultant on preparation of city plans and zoning ordinances for more than 50 American and Canadian cities.

EXPERIENCED planners know that the most carefully laid schemes for well-rounded community life—housing, schooling, recreation, and other features—will "miss the boat" unless you provide *easy accessibility*. The answer is efficient urban transportation, a system which will serve the greatest number of people with the least number of vehicles, and thereby make the most efficient use of every foot of street space.

Distribution of population is influenced by mass-transportation facilities. Thus, when you consider residential-neighborhood developments, growth of business and industrial districts, and location of schools and recreation centers, transportation should be basic in your thinking.

Greater usage of your public transportation facilities can help greatly toward relieving traffic congestion without the costly necessities of arterial streets and street widening. By pooling ideas with your transit men, you can devise the most efficient system from the standpoint of both the city and the operating company.

Give transit the important place it deserves in your planning, and you'll boost public service, make your city a better place in which to live, and keep your tax rate down. *General Electric Company, Schenectady 5, N. Y.*

Without vital street-car and bus service ... We could lose the war. Production would stop. Thousands would be thrown out of work. Many businesses would close their doors. Suburbs would become isolated. Acres of real estate would become valueless. Tax collections would drop drastically. Your city would disintegrate into small communities. Modern city life, as we know it, would disappear!

BUY WAR BONDS

GENERAL ELECTRIC

107-100-9560

Traffic Control and Facilitation

Conducted by Traffic Control and Facilitation Committee, Institute of Traffic Engineers, 60 John St., New York

W. F. MILNER, Chairman; DONALD S. BERRY, FRED W. FISCH, MAXWELL HALSEY, WILFRED F. IRVIN, HARRY C. KOCH, PHILIP S. MANCINI, CLAUDE N. MAURER, WILLIAM R. McCONOCHIE, W. L. ROBERTSON, I. S. SHATTUCK, GEORGE M. WEBB

Reduced Police Aided by Motorcycles, Signals, Radio, Call Boxes, Parking Meters

WHEN police officers and men exchange the familiar blue and brass buttons for Army khaki and Navy blue, there is likely to be question, worry, even alarm on the little streets back home. Every community is being confronted with this situation. Law and order must be maintained, and when men are not available, it is necessary to resort to mechanisms. Take a town like White Plains, N. Y., county-seat of Westchester County. The normal police force has been reduced from 105 members to 84, and some of these can be called into the armed services any day. White Plains had to take stock of men and equipment on hand, and devise a workable, dependable, efficient police force. Standards and requirements could not be lowered for new members joining the force.

More citizens were asked to join the previously organized Auxiliary Unit, which swelled to 125 men, all trained in police duties, drills and shooting by officers of the regular department. These new men may be called upon, and temporarily sworn in, to perform regular police work during an emergency. Daily routine and procedures, however, still must be continued by the regular force.

The Police Department favors the use of motorcycles. Says Public Safety Commissioner Frank T. Hanlon: "We very soon will have a corps of 10 Harley-Davidson motorcycles serving a population of 40,327 and covering a city area of 10 square miles. Our motorcycles operate from 8 a.m. to midnight, but with the coming of warmer weather, we will have some of them operating 24 hours. The present reduced running hours are to conserve material and manpower."

There are a number of branch stores of big New York City department stores in the town, and shoppers from the entire Westchester County and parts of Fairfield County, Conn., use White Plains as their purchasing center. Congestion is the natural result of the influx of daily shoppers. The Police Department finds motorcycles the most effective means of keeping an even flow of traffic in the community.

Signal Control

As part of organizing a definite system for controlling traffic in White Plains, there are constant check-ups being made on the traffic signals. There are eight fixed Signal Service Corps units located at strategic points throughout the city. When check-ups reveal that lights are no longer needed, they are removed and placed at busier sites. Post-war plans call for increased signal-light equipment. The entire traffic-signal control is conducted by one man at police headquarters. Timing is not uniform in all parts of the city and is changed in various localities to suit working hours, shopping times, speed limits, and local activity centers.

Other methods of controlling traffic are by stop signs, traffic posts and one-way streets. There is a tendency to eliminate stanchions and in their place to use white lines on pavements and curbs, at intersections and parking space. The department feels white lines are safer, conspicuous, give the street a more uniform and attractive appearance, and results in fewer accidents.

The Police Department of White Plains, N. Y., uses motorcycles to control moving traffic and watch parking which is regulated by Mark-Time meters.

AUTOMATIC VOTING MACHINES and PRIMARY ELECTIONS

During the spring, summer and early fall, Automatic Voting Machines will be utilized in many political sub-divisions in different states at Primary Elections when candidates for State and Local offices will be nominated, and the successful candidates of each party will be placed on the voting machine at the Presidential Election in November.

The voting machine is so equipped that the voter can only vote for candidates of his own party at a Primary, as prescribed by law, and there is no opportunity for the voter to make a mistake and invalidate his vote as is so often the case when paper ballots are used.

The following typical election scene with a voting machine illustrates the utter simplicity of the modern system of voting—

Interested officials, organizations and individuals are invited to write for descriptive literature covering all phases of Mechanical Voting.

Labor unions and other organizations are renting our equipment for use at their official elections.

Our manufacturing facilities are now confined to war products.

AUTOMATIC VOTING MACHINE CORPORATION

JAMESTOWN **NEW YORK**

street a more uniform and attractive appearance, and result in fewer accidents.

On duty at all times is a minimum of 4 of the 7 Chevrolet prowl cars. Each of the cars is equipped with a 5-watt "3-way" Western Electric transmitter. The cars of the Chief of Police and the Fire Chief are equipped with a 15-watt transmitter, which permits them to be used for emergency transmitting in the event of breakdown in headquarters equipment. A teletype system has been installed over the entire county providing assistance to any community by state police in case of emergency.

In addition to motorcycle units, traffic signals, and prowl cars, the 10-square mile area of White Plains is divided into 8 walking beats, constantly covered by men of the force. Along these beats are 25 call boxes leased to the city by the New York Telephone Co. Commissioner Hanlon says: "These boxes along with our 3-way radio are sufficient for several years, depending, of course, upon the growth of the city."

Parking Meters

Back in 1938, merchants were complaining bitterly against all-day parking in front of their stores. Double-parking was not unusual even on narrow streets; drivers were finding it difficult to coordinate shopping expeditions and parking facilities. Congestion had developed to a point of constant confusion. At that time White Plains installed 200 Rhodes Mark-Time parking meters for a 6-month trial. During this period, parking conditions cleared up, business and townspeople were more than satisfied with the results, and enough revenue had been collected to pay for the meters, plus a goodly surplus. Today 960 Rhodes meters are located throughout the city. There is no immediate need for additional meters, although from time to time they are redistributed to meet demands of growing and changing centers of activity.

The annual revenue from meters for the years 1941-1943 totaled $129,994: $43,541 in 1941; $49,389 in 1942; and $37,064 in 1943. The drop in 1943 is accounted for by the gas rationing and subsequent reduced driving.

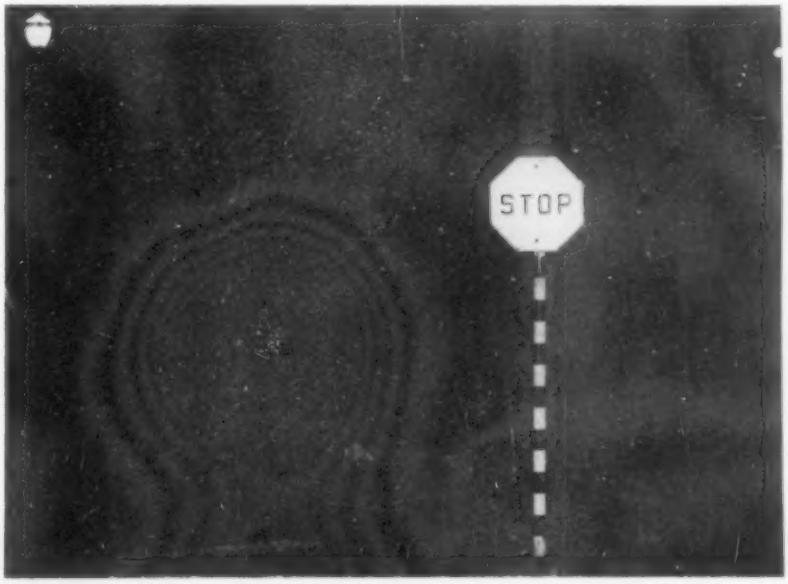
Wilmington's Parking Meters Effective

THE installation of parking meters in the business section in the fall of 1941 has done much to help solve the traffic congestion brought on by the influx of people to Wilmington, N. C., says the city's annual report. Three hundred and sixty Dual meters of the penny-nickel variety were installed, permitting 12 minutes' parking for one cent and one hour's parking for five cents. In more heavily used areas such as in front of the Post Office and City Hall, 33 meters were set up limiting parking to 12 minutes for one cent. Finally, 41 meters of the two-hour variety are in use in less congested areas, requiring a nickel for that length of time. Parking spaces, which were almost unobtainable before the installation of the meters, are now much more easily secured and there is less double-parking. From July 1 1942 to June 30, 1943 there were 9,168 parking-meter violations.

Scotchlite Signs for Night and Day

LAST year the city of Yakima purchased Scotchlite sign sheeting and since then all street-sign replacements have been made with it. The signs are made of plywood boards to which the material, that has an adhesive back, is applied. The signs are then painted as desired with lettering, arrows, or other designs for warning or instructing motorists. They are bound with metal and thus make an attractive and sturdy sign which is equally visible by day or night. These signs, made by city workmen at a cost of $2.38 each for labor and material, have proved to be a good investment in traffic safety. We have 300 stop signs.

GEO W. CLARK.
Commissioner of Public Works,
Yakima, Wash.



TOMORROW'S *Safer Cities* MUST BE PLANNED TODAY!

Although traffic is three times heavier during the day, over 60% of all traffic fatalities occur during dusk and darkness. Most of these traffic accidents are caused by inadequate and improper illumination.

To save time . . . lives . . . money, Westinghouse urges each City Planning Commission to consider its street lighting program now. For tomorrow's safer cities must be planned *today*.

Prompt consideration will give the necessary time for a really scientific planning job . . . and the necessary facts to budget the program over a desirable period of years.

Westinghouse Lighting Engineers are ready to help you get your plans on paper now. For details about this planning service, call your nearest Westinghouse office. No obligation. Westinghouse Electric & Mfg. Co., Edgewater Park, Cleveland, Ohio.

Westinghouse *Lighting Equipment*

PLANTS IN 25 CITIES OFFICES EVERYWHERE

What About Fluorescent Street Lighting?

By KIRK M. REID*

City officials, utility men, and traffic authorities are asking, "What About Fluorescent Street Lighting?" In this article Kirk M. Reid, street and highway lighting engineer of the General Electric Co., gives a satisfying and thought-provoking answer.

THE question has been raised in many quarters as to whether fluorescent lamps will not play an increasingly important role in street lighting after the war. These questions reflect the widespread popular interest in fluorescent lighting.

Studies of the application of fluorescent sources to street lighting have been in progress for several years in the General Electric Co., and elsewhere. Extensive tests have been made at Nela Park on both hot-cathode fluorescent lamps and cold-cathode high-voltage fluorescent tubes operated in series and in multiple under outdoor conditions. Several designs of fluorescent-lamp luminaires for street lighting have been tried experimentally. These luminaires have been mounted on roadways for observation of lighting effectiveness, and full light distribution data obtained.

In summary of the findings to date, fluorescent lamps have several advantages and also several disadvantages for street lighting. The advantages include high efficiency of light generation, low brightness, relatively long life, and enhanced visibility on wet pavements due to broad streaks of brightness from an elongated source. The disadvantages include inherently low light output per foot of source, large size of luminaires, and necessity of jacketing in cold weather. Overall, fluorescent street lighting is thus far at a marked disadvantage, as compared with present sources and practices, in visibility obtained per dollar of total lighting cost.

To analyze the matter in greater detail, the factors in which one is most interested when appraising a new source for street lighting are:

1. Adaptability to designs of luminaires providing a favorable distribution of light flux, moderate absorption of emitted flux, reasonable suppression of glare, and satisfactory appearance;
2. Starting and operating characteristics under all weather conditions;
3. Novel features;
4. Hazards in service;
5. Cost of complete installation, taking into account the extent to which existing facilities may be utilized;
6. Cost of maintenance, including liability to breakage, reliability of accessories, any special skills of maintenance facilities required, and life characteristics of the source as affecting maintenance practices;
7. Cost of energy;
8. And most important of all, the visibility or overall *seeing value* provided *per dollar of total cost.*

An appraisal of fluorescent lamps for utilitarian street lighting, in reference to the above listed factors, may be stated at this time as follows:

1. Elongated tube sources, if positioned crosswise of the street, are particularly effective on wet pavements because the reflected streaks of brightness are broad and not uncomfortably bright.

   With such sources, luminaires may be designed to direct a good proportion of the light flux to the street near the lamps. However, the illumination is "spotty" because the relatively large diameter of the tubes (compared to filament sources) prevents redirection of adequate flux to the street surface between lamps unless lamps are spaced much closer than in present practice or a very large optical system is employed with added obtrusiveness and cost.

   Since fluorescent lamps are virtually opaque to reflected light, any "grid" construction (which might be employed to reduce the overall source dimensions) would result in considerable absorption of light.

   Fluorescent lamp installations would be considered more comfortable by most observers because of the low source brightness, but the loss in visibility resulting from glare would be substantially the same as that from a comparable filament lamp installation. The governing factor in the case of loss in visibility is the candlepower in the direction of the eye.

   Neither a 40-watt 48-inch hot-cathode fluorescent lamp nor an 8-foot 20-mm. cold-cathode tube equals even a 2,500-lumen filament lamp in light output. Where mere light is needed, proportionately greater lengths or greater numbers of fluorescent lamps are required, and the resulting mass of luminaires may be considered too obtrusive for satisfactory appearance.

2. By means of proper auxiliaries, it appears feasible to start and to operate hot-cathode and cold-cathode fluorescent lamps from either a series or multiple supply.

   Since fluorescent lamps give their rated or full efficiency only at an ambient temperature of 70 to 80 degrees Fahrenheit, luminaires for either hot-cathode or cold-cathode lamps must include provision for

* Nela Park Engineering Division, General Electric Co., Cleveland, Ohio. THE AMERICAN CITY is glad to use this article which will also appear in "Illuminating Engineering," published by the Illuminating Engineering Society, New York.

Take Nighttime Traffic Deaths Off Your Payroll

WITH ADEQUATE STREET LIGHTING

TWO cars crash at a dark intersection. Someone is hurt . . . perhaps the father of small children. Police and ambulances rush to the scene. A hospital, a doctor, and a nurse's services are required. Tomorrow there will be an empty place in some war plant or some busy essential office. Lawsuits may even follow—tying up the courts, lawyers, judges, jurymen.

Yet all of this suffering and expense might have been prevented by a single street light properly placed!

Why not begin now to insure your community against these needless costs by planning a program of street lighting modernization which you can install immediately peace comes?

The original cost of such a program need not be high nor its maintenance excessive—*if* it is intelligently planned.

Union Metal's street lighting specialists would be glad to help—and behind them is 36 years of experience during which this company has worked closely with cities, towns, and villages to everyone's benefit. Catalogs and other helpful literature are free on request. Write today to The Union Metal Manufacturing Company, Canton 5, Ohio.

UNION METAL

Largest Producers of Street Lighting Standards

jacketing in order to avoid serious loss in light output during cold weather. Again, jackets would have to be removed in summer to avoid a rise in temperature above the optimum range.

Would Arouse Public Interest

3. The novelty of a proposed street-lighting system employing fluorescent lamps would undoubtedly arouse public interest. Through this interest, officials responsible for traffic facility and public safety might be able to obtain more nearly adequate appropriations for street-lighting service, which are in general now far below the amount clearly demonstrated to be necessary to obtain an optimum balance between cost of accidents and cost of lighting.

   Fluorescent lamps offer possibilities of spectacular effects—for example, large luminous pylons such as were employed on some of the World's Fair roadways. It will not be surprising if merchants install lighting of this nature on some business streets for its advertising value. It may be noted that with fluorescent lamps it is possible to change the color of the light for special occasions by replacing "white" lamps with "green" or "red," without the loss in efficiency incurred when color media are placed around filament lamps. These are, of course, limited applications. The major part of street lighting is utilitarian in objective.

4. Service men accustomed to the high voltage of series street lighting circuits would presumably be competent to deal safely with the high voltage of cold-cathode fluorescent lighting. The only important difference is that the auxiliary transformer supplies a high voltage to cold-cathode fluorescent lamps, while the corresponding series IL transformer supplies a low voltage to filament lamps, as its common name of "safety coil" indicates.

   If breakage of tubes or jackets should occur very frequently the relatively large amount of glass on the pavement might cause some traffic hazard due to blowouts or to swerving of cars to avoid glass.

5. Existing circuits could be utilized for the most part. New auxiliaries and new luminaires would be required in all cases. The large size of the luminaires may be expected to result in greater cost. Heavier brackets, poles and pole foundations might be required to withstand the greater weight and windage.

Moderate Maintenance

6. It should be possible to design fluorescent lamp street-lighting accessories, for either series or multiple supply, which would be reliable and would require relatively little servicing.

   Special designs of maintenance trucks would be required to transport the elongated sources and jackets. With proper training and supervision, it may be presumed that maintenance crews would be able to avoid an undue amount of breakage of tubes and jackets in handling.

   It appears that life of hot-cathode fluorescent lamps would be relatively long on a street-lighting schedule of operation and their output satisfactorily maintained to end of life. Unknowns affecting life in this service include the extent of mechanical breakage of elongated sources.

   The useful lift of cold-cathode tubing would be determined by the acceptable limit of depreciation of light output. A depreciation of 20 percent in light output is usually considered the limit of acceptable practice in street lighting, whereas in electric signs a depreciation of 50 percent (with the proportionately long tubes lives usually reported) may not be excessive.

   The depreciation in light output proceeds at substantially the same rate in hot-cathode and cold-cathode lamps. While the electrical life of cold-cathode lamps may be very long, the life to a given percentage of initial output is no greater than will be obtained with hot-cathode lamps. Every indication points to the same useful life for lamps of both types in the immediate post-war period. The difference is that the cold-cathode tubes are capable of being used when no longer adequate to meet the required illumination value.

   Cold-cathode tubes should, obviously, be replaced under a periodic group replacement plan of lamp renewal. Tube outages would be limited to those resulting from breakage or defects. Replacement schedules could be planned well in advance, and a minimum of maintenance truck mileage would be required. One would have to stay on guard, however, against any tendency to allow the tubes to remain in service too long, with attendant loss in their efficiency and lighting effectiveness.

   Group replacement would also be desirable for hot-cathode lamps on a schedule which avoids any considerable number of individual lamp failures.

7. The light emission per watt of fluorescent sources is high—more than double that of the common sizes of filament street series lamps. Leaving out of consideration the above-mentioned costs of installation and maintenance, a more efficient source offers the same amount of generated light for less energy cost, or more light for the same energy cost.

8. From the standpoint of the public, the all-important consideration in summarizing the above factors is the visibility obtained per dollar of total lighting cost. From this standpoint, as already stated, fluorescent street lighting thus far is at a marked disadvantage. This results from the inherently low output of a tube, and the lack of compactness of source. I know of no developments which give promise of substantially altering this limitation.

   Naturally, researches on fluorescent lamps, as on other types of light sources, will continue. Some future development, not now foreseen, may open up the possibility of a fluorescent lamp street-lighting system which would give the public greater value than present sources and practices. If that occurs, however, it should be kept in mind that it takes several years before any radical development is perfected for widespread application. That has been the history of lighting progress.

Protect the Pedestrian

During the first half of December 1943, 224 pedestrians were injured and 12 killed, nearly twice the death and injury toll in Los Angeles City during the same period of 1942.

The need of wearing or carrying something white at night is indicated by the fact that every nighttime pedestrian fatality for this period involved a person wearing dark clothing. Ten of the 12 fatal pedestrian accidents occurred at night.

Investigations of these pedestrian accidents by police officers revealed that more than half of the casualties resulted from jaywalking. In nearly every jaywalking case the pedestrian was crossing a roadway in mid-block in a residential area and failed to yield the right of way to an oncoming automobile. Six of the fatalities and almost half of the injuries resulted from the carelessness of automobile drivers who failed to yield the right of way to pedestrians within the boundaries of crosswalks.

FROM THE HONOR ROLL...TO THE PAY ROLL

WHEN THE VICTORY whistles blow and our boys come home, it's up to every city and town to transfer each man's name from the Honor Roll to the Pay Roll. One way your community can accomplish this is to plan Public Works Programs NOW . . . which will give your own men plenty of jobs right in your own home town.

On water supply, sewerage and drainage projects the Lock Joint Pipe Company is prepared to come into your town, set up local temporary plants and employ up to 90% local labor. Your merchants will also benefit through the local purchase of a large quantity of supplies and materials. As a result, a substantial part of the cost of the project will be redistributed in your own community.

The use of Reinforced Concrete Pipe will not only give immediate employment to some of your engineers, mechanics, laborers, and other skilled workers . . . BUT it will bring absolute assurance that your pipeline problems of corrosion, tuberculation and maintenance are completely and permanently solved.

Whether your project is large or small, for the present or the future, your 'phone call, telegram, cable or letter to any of our offices will bring a prompt reply.

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Reinforced Concrete
PRESSURE PIPE

LOCK JOINT PIPE COMPANY

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AMPERE, NEW JERSEY

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SCOPE OF SERVICES *Lock Joint Pipe Company specializes in the manufacture and installation of Reinforced Concrete Pressure Pipe for Water Supply Mains as well as Concrete Pipe of all types for Sanitary Sewers, Storm Drains, Culverts and Subaqueous lines.*

Rehabilitation of Blighted Areas of Cities With Public Power and Private Capital

Analysis of Urban Redevelopment Laws

By CHARLES S. RHYNE
Executive Director
National Institute of Municipal Law Officers
Washington, D. C.

THE Supreme Court of the United States has written the final word in a new chapter on housing law—a word which may well mean the rapid expansion of a new idea for the elimination of blighted areas of cities by the use of public power and private capital. The Court's action came on February 7, 1944, when it entered an order denying a petition which had requested a review of the decision on December 2, 1943, of the Court of Appeals of New York upholding the New York "Redevelopment Companies Law" of 1942, as amended in 1943.* The case is entitled *Murray v. La Guardia*.

This law provides for the creation of privately financed corporations to effect the clearance and rehabilitation of areas found by city planning commissions to be substandard and insanitary. Cities may use the power of eminent domain to acquire property for the purposes of such a project and turn such property over to the private corporation. The private corporation may be granted a tax exemption on such projects equal to the increased value due to the project for a period of 25 years and is limited in its distribution of earnings from the project to 6 percent of the project's cost. The corporation may free itself from all special public controls by paying the city the full amount of the taxes from which it was exempt plus 5 percent interest.

The New York law is admittedly an attempt to interest insurance companies in this type of investment. The Metropolitan Life Insurance Company created a corporation known as "Stuyvesant Town Corporation" to carry out a project in New York City to clear 18 city blocks of substandard buildings and replace them by 35 apartment buildings at a cost of some $50,000,000.

The *Murray* case was an action by owners of real estate within these 18 city blocks to enjoin the city from condemning their property for the use of Stuyvesant Town Corporation. The New York Court of Appeals held that the power of eminent domain was properly used by the city in this case, even though the property was destined for use by a private corporation, since the taking was for the public use of clearing a blighted area of the city. The tax exemption feature of the law is not objectionable, according to the Court. A dissenting opinion contends that the law authorizes the taking by eminent domain of private property for the use of a private corporation and is therefore invalid because the corporation can free itself of all special public controls.

Illinois Decision

A Court of original jurisdiction, the Circuit Court of Cook County, on December 24, 1943, held that the Illinois "Neighborhood Redevelopment Corporation Law" is unconstitutional. The case is entitled *Zorn v. City of Chicago*. That Court based its decision on the fact that the Illinois Law authorizes any private corporation, qualifying thereunder, to use the power of eminent domain in acquiring the real estate of other private persons in carrying out projects for rehabilitation of blighted areas of cities. The Court said in part:

"Since all public control for the perpetuation of public use is removed with the completion of the redeveloped area, the grant of the power of eminent domain becomes the crux of the entire act. The purpose for which the property would be taken and used would be a private purpose for pecuniary profit and not a public purpose at all. The law authorizing the taking of private property for public use upon payment of just compensation therefor, does not permit of taking of private property for private use. The Illinois Supreme Court so held in *Litchveld v. Alton*, 305 Ill. 388. It emphasized that the public must be entitled to use and enjoy the property not as a mere favor or by permission of the owner, but by right. . . .

"To justify the taking of private property from the owner without his consent, even for adequate consideration, the law must extend its control over the property after it has been condemned, to insure its devotion to the declared public purpose and uses. The present Statute does not meet the requirements and is unconstitutional." This decision will be appealed to the Illinois Appellate Courts to finally determine the constitutionality of the Illinois Statute.

Redevelopment Laws of Nine States

Starting with the New York, Illinois, and Michigan laws in 1941, the idea of urban redevelopment laws has now spread to seven other states. Kentucky adopted such a law in 1942. In 1943, Indiana, Kansas, Maryland, Missouri, and Wisconsin adopted urban redevelopment laws; and the New York act of 1942 was amended to satisfy certain objections of insurance companies. The purpose of all of these laws is to secure the use of private capital in the rehabilitation of slum or blighted areas of cities which have deteriorated through obsolescence. They stem from a recognition of the fact that in the past private enterprise has been unable to accomplish much in this field because of inability to assemble large tracts of land. To rehabilitate a blighted area the property of many owners must be acquired. Some owners will sell at a reasonable figure while others hold on hoping to exact an exorbitant price. Some of the owners are not residents of the city and are hard to reach, while in other cases lien holders will not relinquish their security. One or two persons can thus frustrate an entire rehabilitation project. Use of the public's power of eminent domain is the only answer to this problem.

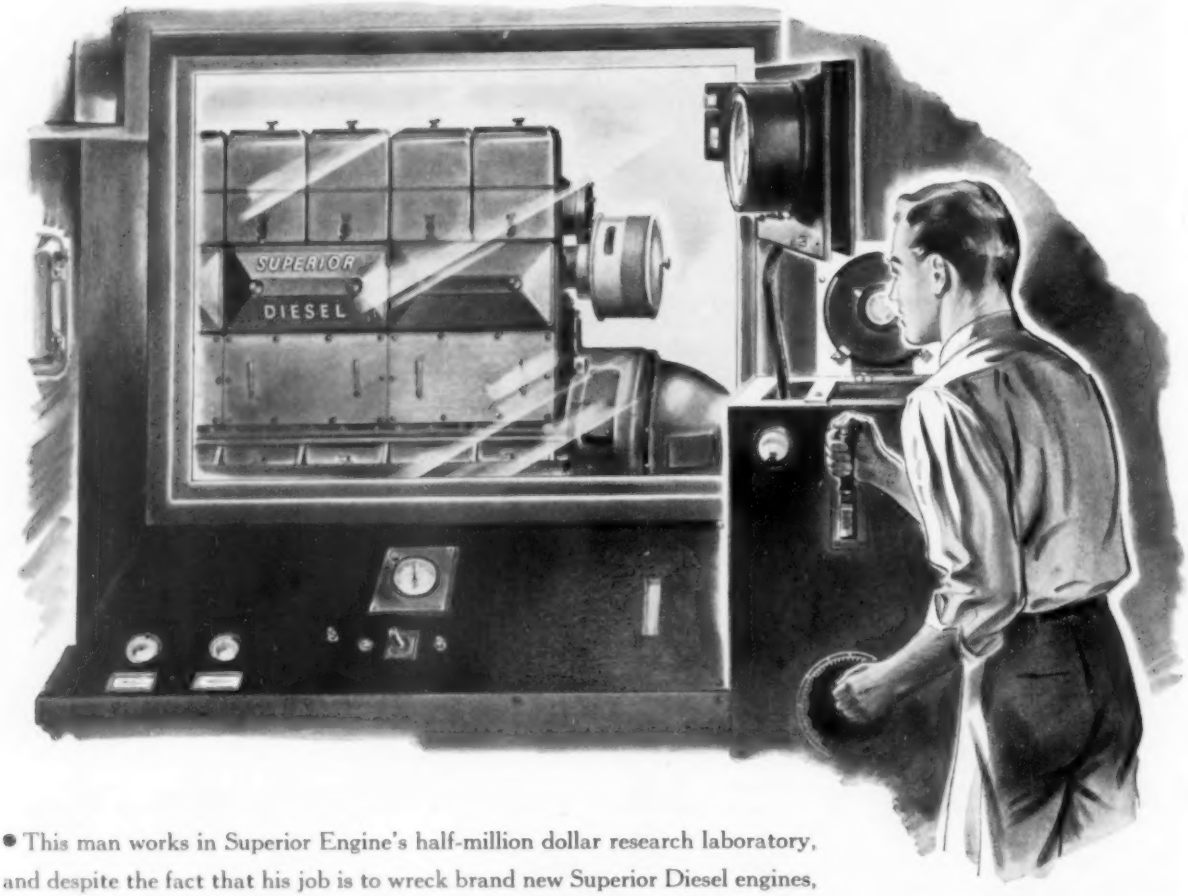
Although similar in purpose, these state redevelopment laws seek to achieve their result in various ways and a brief analysis or summary of the major provisions of these laws is of interest to those considering this new idea for rehabilitation of blighted areas of cities.

Scope of Application of State Laws

The Illinois, Indiana, New York, and Wisconsin laws apply to all cities located in those states, while the laws of four

* New York had previously adopted (in 1941) an "Urban Redevelopment Corporations Law," in which the public interest was more strictly safeguarded than in the later law here discussed. Although both laws are now on the statute books, the inauguration of projects under the earlier law is so unlikely that future references in this article will be to the 1942 "Redevelopment Companies Law" as amended in 1943.

You'd fire this man if he worked for you...



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states are operative in the respective state's largest city only—Kentucky (Louisville), Maryland (Baltimore), Michigan (Detroit), and Missouri (St. Louis). The Kansas law applies to the cities of Kansas City and Wichita. In Illinois and New York, a special form of corporation is formed under the redevelopment law, while in all other states the redevelopment corporations are to be formed for this special purpose under the general corporation laws now in effect.

Use of Power of Eminent Domain

In all states the power of eminent domain is available for use in assembling land for projects to rehabilitate blighted city areas. In Illinois, Indiana, Kansas, and Missouri, the private redevelopment corporations can, after approval of their project by the designated city or state agency, exercise this power directly to take private property. The Illinois law also further limits the use of this power by allowing its exercise only when the development corporation owns or has options on 60 percent of the land for the proposed project, while the Indiana law requires two-thirds ownership or options. In Maryland, the city can only acquire land for redevelopment purposes when it either owns or has options on 60 percent of the property for any proposed project. In Kentucky, Michigan, New York, and Wisconsin, the city in which the project is to be located can acquire property for the project by the use of the power of eminent domain and then turn the property so acquired over to private development corporations.

Taxation

In Illinois, Indiana, Kentucky, and Missouri, no tax exemption is offered as an inducement to private capital to enter this new field. The Illinois law specifically allows taxation of the assets and capital stock of these corporations. In Kansas, parks, alleys, streets, and playgrounds on projects are exempt from taxation but all property on the project which is rented commercially is fully taxable. In Baltimore, Md., the projects are to be taxed on their use value through agreements by the redevelopment corporation with the city. In Michigan and Wisconsin, the increased value due to the project *may* be exempted from taxation for 10 years, and in New York the period is 25 years.

Public Aids

In Kansas and Wisconsin cities may assist a redevelopment corporation by vacating or establishing streets, alleys, parks, playgrounds, and other public facilities. In Missouri and Wisconsin the city may prepare redevelopment plans for redevelopment corporations. In Kansas, Michigan, Kentucky, Missouri, New York, and Wisconsin, cities may sell or lease any of their property not required for use by the city, to redevelopment corporations. The Kentucky, Michigan, Wisconsin, and New York laws allow this to be done without public competitive bidding. In Illinois, Indiana, Kansas, Michigan, Missouri, and New York, all fiduciaries, public bodies and officers, banks and insurance companies, may legally invest funds in their control in certificates, bonds, and notes secured by a first mortgage on the real property of a redevelopment corporation, provided the amount secured by such mortgage does not exceed any limits imposed by law for investments.

Federal Aid

In Illinois mortgages of redevelopment corporations, which are issued by the Federal Housing Administration are legal investments for fiduciaries and other public and private bodies. In Kansas, Kentucky, Michigan, and Wisconsin, certain restrictions on legal investments are made inapplicable to mortgages insured by FHA. In Kansas and Missouri, redevelopment corporations may accept federal loans or grants if the state supervising agency approves each loan or grant. In Maryland, Baltimore City may petition for or accept federal loans or grants. In Wisconsin, cities may borrow funds or accept grants from the federal or state governments. The New York law makes certain of its restrictions inapplicable to projects receiving federal funds or having mortgage bonds which are insured by the federal government. Indiana makes no provision for federal aid.

Public Controls

All of the nine state laws here under consideration require approval by a state or city supervising agency of building and financing plans for each project. These controls are intended to assure adequate buildings, proper facilities, and sound financing of all projects. In Illinois, Indiana, Maryland, and Kentucky, there are no regulations and limitations as to profits. In Michigan there is a limit of 5 percent of the development cost of each project per year, with the New York law adopting a 6 percent and the Wisconsin law a 3 percent limit based on the same factor. In Illinois, Indiana, Kansas, Michigan, Kentucky, Missouri, New York, and Wisconsin, controls over the finances and financing of redevelopment corporations are provided. These include requirements of approval of stock or mortgage issues, the rendering of financial reports, and other regulations. Maryland has no such controls over private redevelopment corporations. In Illinois, Kansas, Kentucky, Michigan, Missouri, and Wisconsin, each proposed plan for a redevelopment project must contain a statement of the approximate rentals for the proposed dwelling accommodations to be provided under the redevelopment plan. In New York, the rents charged on each project must be regulated by the contract covering the project and entered into between the city and the redevelopment company.

The Illinois law contains restrictions to prevent diversion of the properties from public use without approval of the supervising agency (the city redevelopment commission) up until the project is completed and then all sales are subject to any use restrictions imposed on the corporation. Court action to require compliance with the law is provided. In Indiana there are no restrictions on diversion of the property acquired by redevelopment corporations from public use. In Kansas, Kentucky, Michigan, Missouri, and Wisconsin, no sale or lease of a redevelopment corporation's land, or change in the redevelopment plan, may be made without approval of the proper city or state supervising agency. Court action is provided to enforce the restrictions in these statutes. In Maryland, the city of Baltimore's Land Development Commission may sell, lease or transfer land it acquires only to a responsible purchaser who will give a performance bond guaranteeing that the new uses prescribed for the land by the City Plan Commission will be carried out. In New York a redevelopment corporation can free itself from public controls prohibiting land sales or change in the redevelopment plans during the 25-year partial tax exemption period only by paying in full all taxes from which it has been exempted plus 5 percent interest.

The Indiana, Kansas, and Maryland laws make no provision for the rehousing of persons living in the areas to be redeveloped. In Illinois, Kentucky, Michigan, Missouri, and Wisconsin, the city supervising agency must determine that the hardship to families occupying dwellings in the area to be redeveloped does not outweigh the public purposes of the plan. In the New York law, the city legislative body is required to consider the availability of other suitable accommodations for those affected by the plan.

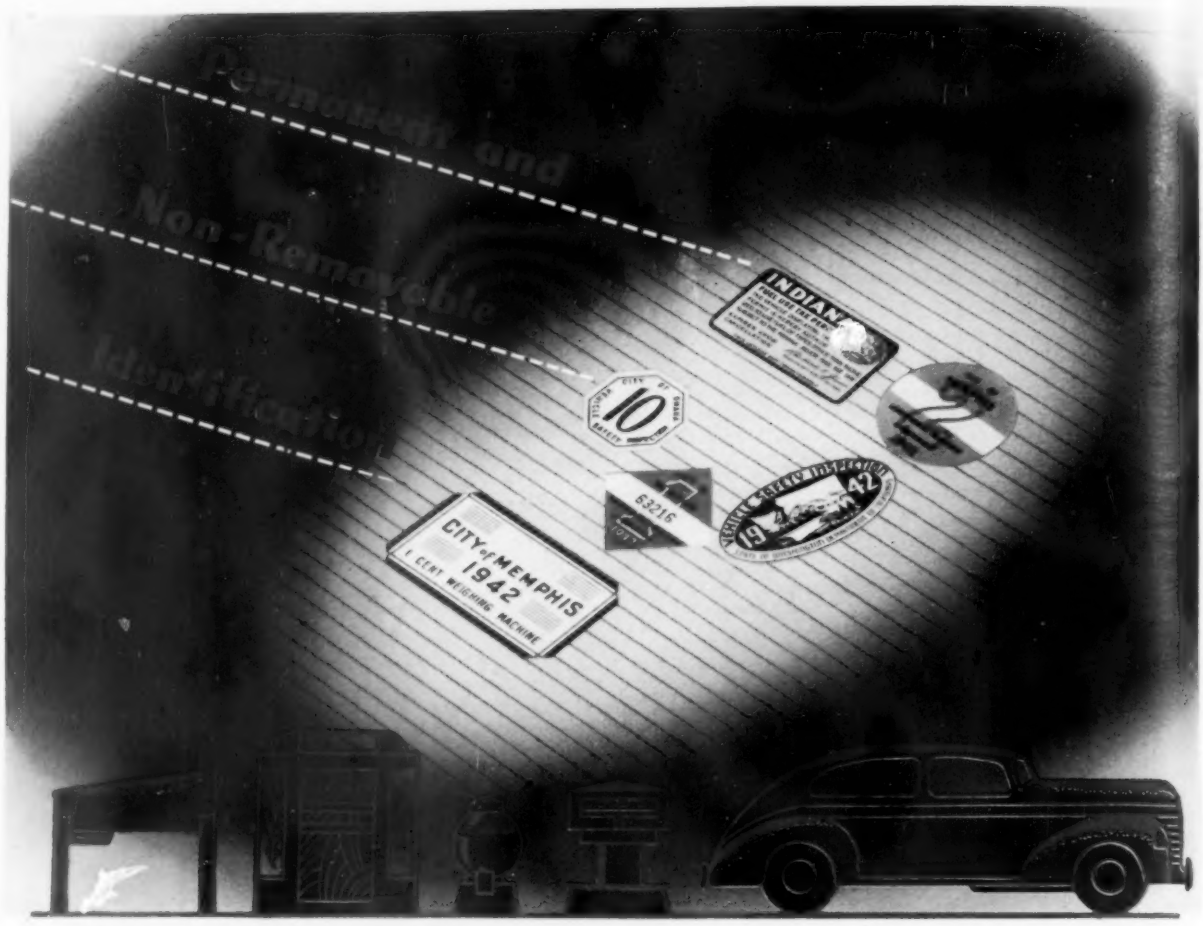
Miscellaneous Provisions

In Illinois no redevelopment corporation may acquire any interest in land for a project, except an option, until the project is approved by the city redevelopment commission. In Maryland, land transfers of the Baltimore Land Development Commission are subject to the approval of the Mayor and City Council. In Michigan and Wisconsin, one member of the board of directors of each redevelopment corporation must be a designee of the governing body of the city, so long as such corporations enjoy partial tax exemption. The Wisconsin law authorizes cities to appropriate money to make plans and surveys to carry out redevelopment plans, including acquisition of lands for such plans or the provision of public works and facilities in connection with such a plan. The city in which such action is taken is given the power to designate one member of the board of directors of the redevelopment corporation so long as any amounts are due the city from such corporation for property or public works turned into a redevelopment plan.

Proposed Federal Legislation—Wagner and Thomas Bills

There are two pending bills in the Congress of the United States, both of which would lend federal aid to this drive for rehabilitation of blighted areas of cities. A bill by Senator Wagner (S. 1163) would authorize an appropriation of one billion dollars for the fiscal year of 1944 to be used by the National Housing Agency in making grants and loans to cities to carry out such a program. Senator Thomas' Bill (S. 953) would create an "Urban Redevelopment Agency" to advance funds for the making of master plans of cities and for the acquisition of real property for the carrying out of plans for the rehabilitation of blighted municipal areas. The advances are to be repaid by the cities out of earnings of the projects with interest at the rate of 2 percent. So far there is little indication that any prompt action may be expected on this legislation.

Some form of federal credit or banking aid would seem to be indicated if the program is to take effect on a nation-wide scale.



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Municipal Accounting and Auditing in Wartime

A Statement by the National Committee on Municipal Accounting

THE members of the National Committee on Municipal Accounting urge local government finance and accounting officers to maintain high standards for their accounting, auditing, and reporting procedures during wartime.

Internal auditing of receipts and disbursements should be given particular care. There may be temptations to use short cuts, to eliminate certain essential auditing procedures, or to permit lax auditing methods. Any such adjustments, however, should harmonize with accepted standards of auditing procedure and should omit no essential checks.

Lowering of standards may come about because of new personnel or the absence of capable supervision. Officials will do well to bear in mind, however, that the public will not accept the war as an excuse for poor work once the war has ended. Consequently, public officials who want to retain their professional standing and protect the governments they serve must make every effort to see that auditing procedures are adequate. In cases where the absence of personnel makes satisfactory auditing impossible, the governing body should be advised.

Financial Reports.—Local governments should continue to prepare and publish financial reports, even though the published reports may be reduced to summary statements only. Complete and detailed financial reports, even though not published in full, should be made, carefully bound, and preserved in the public offices. Finance officers who fail to prepare complete reports will break the continuity of information about their governments, thus making it difficult to formulate financial plans. Some local governments tend to put more detail than necessary in their printed reports. While this detail is necessary for internal use, much of it may be omitted from printed reports. But reports in summary form should be published regularly.

Unnecessary Procedures.—Some municipal accounting and reporting systems require unnecessary work. The war provides a background for eliminating unnecessary procedures which may have been built up over a long period of years. The shortage of labor and materials makes it advisable to survey the nature and extent of account work and retain only those features which serve some useful purpose.

Public Payrolls.—The Committee believes that unusual problems exist with respect to the handling of public payrolls. Since most of the money spent by public bodies is paid out for personal services through the payrolls, these documents and the timekeeping records back of them deserve more careful consideration. The Committee recommends that all payments be made by check, that no checks be given to foremen or department heads, and that each employee be given or mailed his own check by some person independent of the person or department for which he is working directly. In view of the added work caused by application of federal withholding taxes, local governments may well reconsider whether payroll deductions for private purposes can be continued.

Machine Methods.—In the period immediately following the war, there will be a great expansion of accounting by machine methods. Whenever it is possible to do so, the responsible accounting officials should be studying their accounting procedures now, so that they will be ready to install the accounting equipment which they cannot obtain during the war period. Much accounting work is being done by hand methods, or by inefficient machine methods, that can properly be converted when machines are again available. Cities should prepare to make the reconversion period after the war also a period of reconstruction in which benefits of improved procedures and equipment can be realized.

Constant Scrutiny.—Accounting and reporting procedures are designed primarily to assist with the management of government. Consequently, during periods of stress when new problems are continually appearing, the financial reports and procedures must be planned to meet the needs of government administrators. When conditions are changing as rapidly as they are now, the form and content of reports should be continually scrutinized to make certain that they accomplish their proper objectives in the most efficient and thorough manner.

The National Committee on Municipal Accounting includes representatives of the American Accounting Association; American Institute of Accountants; American Municipal Association; International City Managers' Association; Municipal Finance Officers Association; National Association of Cost Accountants; National Association of State Auditors, Comptrollers, and Treasurers; and National Municipal League. The Federal Bureau of the Budget is represented in a liaison capacity. Carl H. Chatters is Committee Secretary, with headquarters at 1313 E. 60th St., Chicago 37, Ill.

"We Have Built Up That Value; Now We Have to Buy It Back"

THE British monthly, *Land & Liberty*, for February 1944 reports a recent discussion of the Borough Council of Southgate, Middlesex, in regard to a price of £2,000 per acre asked for 19.8 acres of land which the borough wished to purchase for a public housing project. To quote, in part:

"Councillor Lauder said returning soldiers could not be told 'we are sorry, there are no houses for you, the land is too dear.' It *was* too dear. He referred to previous purchases where in one case (1899) the land had cost £200 an acre, and now on similar land the price would be ten times as much, and to another (1924) when land for allotments in that area had cost £225 an acre. Why the tremendous increase? Because of the wise planning and good government of the district, the energy and industry of the people, and growth of London.

"We have built up that value and now we have to buy it back; the people of England have increased the value of their land to such an extent that they cannot afford to live on it without subsidy. In other words, with the advance of rent, wages have been driven below subsistence level, wages being insufficient to provide a roof over head.

"Surely," says *Land & Liberty*, "the solution is not any scheme of land purchase, but the *taxation and rating of land values* to secure for the common good the land value which belongs to the people, and at the same time break down the land monopoly which stands in the way of all progress and expansion."

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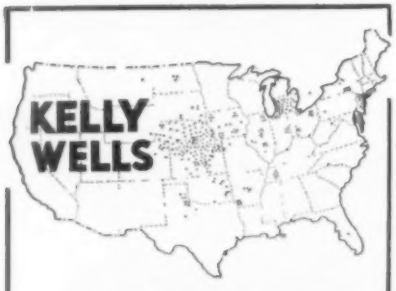

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Zoning and Planning Notes

Prepared by FRANK B. WILLIAMS
Author of *The Law of City Planning and Zoning*

Mapped Streets

NEW YORK.—*Dole* v. *City of New York*, Supreme Court, September 28, 1943, reported in 44 N.Y.S. (2d) p. 250.

The City Planning Commission of the City of New York amended the zoning resolution of the city by changing certain lands from an "E" to a "G" area district. This amendment was duly filed with the Board of Estimate of the city.

The zoning resolution provides that if protests against such an amendment are filed by the owners of 20 percent or more of the area of the land comprised in: the land included in the proposed change, the land immediately adjacent extending 100 feet therefrom, and the land directly opposite, extending 100 feet from the street frontage of such opposite land—the change shall not be effective unless approved by unanimous vote of the entire Board.

The engineers of the Board reported to it that due protests against the amendment had been filed.

The Board approved of the change, but not by a unanimous vote.

The plaintiff contends that the computation of precentage of areas by the engineers is incorrect because based exclusively on "mapped streets," whereas a large number of existing streets in the city which do not appear on the city map must be regarded as streets for zoning purposes.

This contention of the plaintiff the Court denies.

It appears conclusively that the engineers of the Board of Estimate had followed the uniform and exclusive method of determining percentum of protesting area on the basis of "mapped streets" since the origin of zoning in New York City in 1916. Considerable force must be attached to the practical construction of a statute by public officers whose duty it is to enforce it, acquiesced in by all for a long period of times.

In conclusion the Court says:

"'Consequences cannot alter statutes, but may help to fix their meaning. Statutes must be so construed, if possible, that absurdity and michief may be avoided.' Matter of Rouss, 221 N. Y. 81, at page 90, 116 N. E. 782, at page 785. Here, as the City has shown clearly, the exclusive method adopted of computing on the basis of 'mapped streets' results in precision and exactness. The lines of 'mapped streets' are even, fixed, and determined. On the other hand, the method suggested by the plaintiff of computing on the basis of 'streets in use' would result inevitably in confusion and uncertainty, and obstruct the operation of zoning. The impracticality of plaintiff's suggested method is obvious; there could be no direct and simple method of calculating protests; frequently the lines of a 'street in use' are not readily determined without first obtaining an adjudication from the courts as to title; often, streets in use have no specific location and may fall outside the lines of mapped streets. With reference to 'public streets,' there would exist situations in which a given area would contain 'public streets', which are always shown in the City Map, and 'mapped streets', which often are not 'public streets', but merely 'proposed streets'; numerous clashes would result concerning which type of street to use as a basis for figuring protests."

Federal Regulations of Business—Effect on Lease

NEW YORK.—*Robitzek Investing Co.* v. *Colonial Beacon Oil Co.*, 265 App. Div. 749, April 9, 1943.

This is an action to recover one month's rent of a filling station. The lease provided that the tenant should have the right to cancel it if the use of the premises became restricted in any way "for reason of any law * * * or regulation of constituted authority."

A federal order passed after the signing of the lease and tenant's occupancy under it limited the hours of service of gasoline stations and prohibited the sale of rubber tires. The tenant therefore claimed the right to cancel the lease; but the order does not regulate the use of the premises —is not a real property restriction—but controls transactions in gasoline, tires, etc., without regard to any particular premises. A business enterprise of the type involved here is subject to regulation by public agencies; but of this the tenant must bear the risk and not the landloard.

Where there is complete frustration of performance of a contract by act of government, cancellation is permissible. Here there is not complete frustration. The tenant could have continued to operate the gasoline station on the premises within the terms of the lease, though the volume of business might have suffered substantial diminution because of the federal regulatory measures.

The tenant also claims the right to cancel his lease because the Zoning Resolution of the city of New York prevented, and rendered unlawful, the use of the premises for the purposes stated in the lease. It is true that, after the signing of the lease and the beginning of the tenant's occupancy of the premises an amendment of that Resolution was passed, changing the district in which the premises were located from an unrestricted district to a district so restricted that garages were no longer permitted to locate in it; but defendant's possession and use of the premises as a garage under a certificate of occupancy were never in any way challenged or interfered with; and such a certificate cannot be challenged collaterally.

It should be noted also that plans were filed and work begun on the premises as a garage, and the tenant entered on them in good faith and incurred liabilities on the basis of the plans and specifications while the premises were in an unrestricted district in which a garage could legally be located. The tenant therefore acquired a vested right in the premises of which he could not thereafter be deprived.

Zoning Ordinance—Temporary Variance

NEW YORK.—*People ex rel. Saypol* v. *Griffin*, Supreme Court, September 9, 1943, reported in 44 N.Y.S. (2d) p. 68.

This is an application to review the action of the Board of Appeals of the Town of Oyster Bay in denying the petitioner a variance of the zoning ordinance of the town so as to permit the manufacture of small arms and munitions on the premises. These premises are being operated as an amusement park, which is a permissible use for the zoning district in which the land is situated; but owing to the ban on automobile driving, it is producing no income. The petitioner, therefore, has entered into an agreement with the Lexington Manufacturing Corporation to lease the premises to them for the duration of the war and six months thereafter, provided a variance of the ordinance for this period of time is obtained for the war industry above mentioned, which is a use forbidden in the district by the terms of the ordinance.

The court decides in favor of granting the variance on the ground that "where . . . the ultimate good can be attained and a productive use allowed, a use that is temporary and provisional and readily terminated when new conditions supervene, the landowner is wronged if the allowance is refused."

Comprehensive Zoning

UTAH.—*Marshall* v. *Salt Lake City*, Supreme Court, September 23, 1943, reported in 141 P. (2d) p. 704.

Can a city, as a part of a general zoning plan, create small general utility zones throughout residential districts for the purpose of placing within convenient distance of the inhabitants of these districts certain small businesses, handling daily conveniences and necessities for the home? The court holds that this can be lawfully done.

It was claimed that the statutory requirement that the city be divided into districts has implicit in it the idea that districts shall be of considerable size, and corners made by intersecting streets do not therefore constitute a district within the meaning of the enabling act.

It was also claimed that the requirement that the plan should be comprehensive also implied the creation of districts of considerable size. It was, therefore, contended that the zoning contemplated constituted "spot zoning" or "lot zoning."

The court decides that if the zoning is reasonable and for the public good, the zoning in question may be valid; and if this is the fact in the opinion of the legislative body enacting the zoning ordinace, the court will not disturb it.

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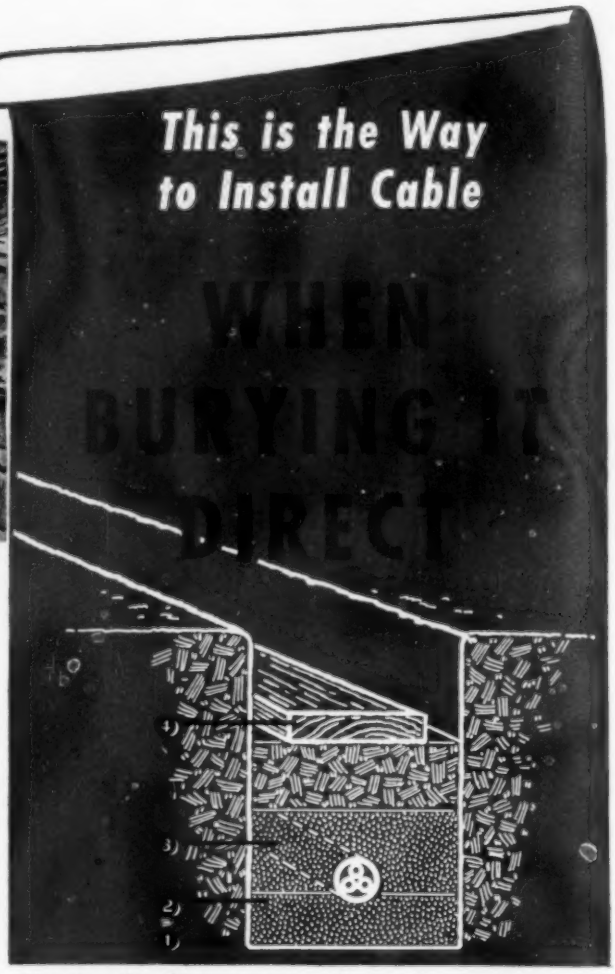

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2. It is preferable to lay a sand cushion, or at least have base of trench loosened so it is cleared of rocks and other rough projections.

3. After laying cable and before backfilling, cover it with soft earth or sand, free from stones, rocks, etc., so they won't press against the cable when flooding or frost-heaving disturbs the surrounding earth.

4. A creosoted plank or concrete slab, laid six to eight inches above the cable, gives additional protection and warns workmen of its presence when digging over the cable.

Under highways and railroad rights-of-way, it is usually best to pull the cable through a pipe or conduit.

Such protection is particularly desirable for non-metallic underground cable. But even when metallic-armored (steel taped, etc.) cable is used, it is desirable to have this more complete protection. Naturally, the extent of protection depends upon the type of soil as well as the likelihood of disturbance, such as in urban areas where the majority of digging and excavating occurs.

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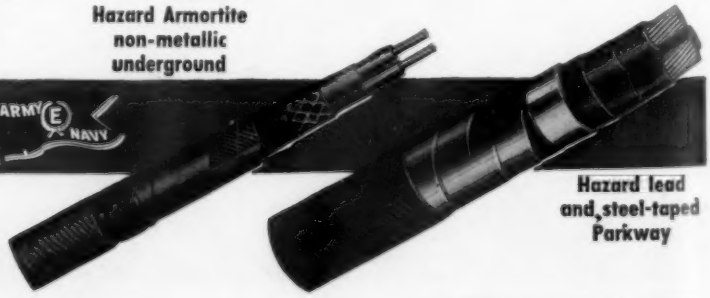

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Conventions—When and Where

Apr. 17-18—Little Rock, Ark.
ARKANSAS WATER AND SEWAGE WORKS CONFERENCE. Annual Conference. (Hotel Marion.) Sec., Harrison Hale, University of Arkansas, Fayetteville, Ark.

Apr. 19-20—St. Louis, Mo.
MISSOURI ASSOCIATION OF PUBLIC UTILITIES. Annual Business Meeting. (Hotel Jefferson.) Asst. Sec., Jesse Blythe, 101 W. High St., Jefferson City, Mo.

Apr. 19-21—Niagara Falls, Ont.
AMERICAN WATER WORKS ASSOCIATION—CANADIAN SECTION. Annual Convention. (Hotel General Brock.) Sec., Dr. A. E. BERTY, Ontario Department of Health, Parliament Bldg., Toronto, Ont., Canada.

Apr. 26-28—Jackson, Mich.
AMERICAN WATER WORKS ASSOCIATION—MICHIGAN SECTION. Annual Joint Meeting with Michigan Conference on Water Purification. (Hotel Otsego.) Sec., M. N. Gerardy, Department of Water Supply, Detroit, Mich.

Apr. 27-28—Utica, N. Y.
AMERICAN WATER WORKS ASSOCIATION—NEW YORK SECTION. Spring War Conference. (Hotel Utica.) Vice-Pres., R. K. Blanchard, Neptune Meter Co., 50 W. 50th St., New York 20, N. Y.

Apr. 30—Chicago, Ill.
AMERICAN INSTITUTE OF PLANNERS. Annual Convention. (Hotel Stevens.) Exec. Sec., Miss Barbara Terrett, 1313 E. 60th St., Chicago, Ill.

May 1-3—Chicago, Ill.
AMERICAN SOCIETY OF PLANNING OFFICIALS. Annual Meeting. (Hotel Stevens.) Dir., Walter H. Blucher, 1313 E. 60th St., Chicago 37, Ill.

May 3-5—Indianapolis, Ind.
AMERICAN INSTITUTE OF ARCHITECTS. Annual Meeting. (Hotels Claypool and Lincoln.) Exec. Sec., E. C. Kemper, 1741 New York Ave., Washington, D. C.

May 3-5—Chicago, Ill.
NATIONAL ASSOCIATION OF HOUSING OFFICIALS. Annual Meeting. (Hotel Stevens.) Dir., Hugh R. Pomeroy, 1313 E. 60th St., Chicago, Ill.

May 5-6—Bozeman, Mont.
AMERICAN WATER WORKS ASSOCIATION—MONTANA SECTION. Annual Meeting. (Hotel Baxter.) Sec.-Treas., Herbert B. Foote, Division of Water and Sewage, State Board of Health, Helena, Mont.

May 8-10—Greenville, S. C.
AMERICAN WATER WORKS ASSOCIATION—SOUTHEASTERN SECTION. Annual meeting. (Hotel Poinsett.) Sec., B. P. Rice, Reconstruction Finance Corp., Bond Service Division, Healey Bldg., Atlanta, Ga.

May 8-11—Philadelphia, Pa.
NATIONAL FIRE PREVENTION ASSOCIATION. Annual Meeting. (Hotel Benjamin Franklin.) M'ng Dir., Percy Bugbee, 60 Batterymarch St., Boston, Mass.

May 12-13—Olympia, Wash.
AMERICAN WATER WORKS ASSOCIATION—PACIFIC NORTHWEST SECTION. Annual Conference. (Hotel Olympian.) Wm. P. Hughes, Lewiston, Idaho.

***May 16-17—St. Louis, Mo.**
MISSOURI ASSOCIATION OF MUNICIPAL UTILITIES. Annual Convention. (Hotel DeSoto.) Sec.-Treas., W. J. McCarroll, Fulton, Mo.

May 17—Springfield, Mass.
NEW ENGLAND SEWAGE WORKS ASSOCIATION. Spring Meeting. (Hotel Kimball.) Sec., L. W. Van Kleeck, Connecticut State Department of Health, State Office Bldg., Hartford, Conn.

May 18-19—Columbus, Ohio
AMERICAN WATER WORKS ASSOCIATION—OHIO SECTION. Annual Conference. (Hotel Ft. Hayes and Chittenden.) Sec., L. J. Hoffman, 101 Municipal Bldg., Akron, Ohio.

May 19-20—Baltimore, Md.
MARYLAND-DELAWARE WATER AND SEWAGE ASSOCIATION. Annual Conference. (Hotel Lord Baltimore.) Sec., Miss E. V. Gipe, 2411 N. Charles St., Baltimore, Md.

May 19-21—Cleveland, Ohio
COMMUNITY CHESTS AND COUNCILS, INC. Annual Meeting. (Hotel Cleveland.) Exec. Dir., Ralph H. Blanchard, 155 E. 44th St., New York 17, N. Y.

May 21-27—Cleveland, Ohio
NATIONAL CONFERENCE OF SOCIAL WORK. Annual Conference. (Hotel Cleveland.) Gen. Sec., Howard R. Knight, 82 N. High St., Columbus, Ohio.

May 22-23—Atlanta, Ga.
ASSOCIATION OF COUNTY COMMISSIONERS OF GEORGIA. Annual Convention. (Hotel Ansley.) Exec. Sec., Betty Peeler, 134 Peachtree St., NW, Atlanta, Ga.

May 22-23—Chehalis, Wash.
ASSOCIATION OF WASHINGTON CITIES. Annual Convention. (Hotel St. Helens.) Sec., Paul F. Schiffner, Asst. Corporation Counsel, Spokane, Wash.

May 24-26—Portland, Oregon
LEAGUE OF OREGON CITIES. Annual Convention. (Hotel Multnomah.) Exec. Sec., Herman Kehrli, University of Oregon, Eugene, Ore.

May 24-26—Harrisburg, Pa.
PENNSYLVANIA STATE ASSOCIATION OF TOWNSHIP COMMISSIONERS. Annual Convention. (Hotel Penn Harris.) Sec.-Treas., H. A. Fritschman, Upper Darby, Pa.

May 28-30—New York, N. Y.
NATIONAL ASSOCIATION OF PURCHASING AGENTS—GOVERNMENTAL, EDUCATION, AND INSTITUTIONAL GROUP. Annual Convention. (Hotel Waldorf-Astoria.) Sec., Joseph W. Nicholson, City Purchasing Agent, Milwaukee, Wis.

***May 31-June 1—Chicago, Ill.**
AMERICAN SHORE AND BEACH PRESERVATION ASSOCIATION. Annual Meeting. (Palmer House.) Sec., Peter J. Gannon, 1060 Broad St., Newark 2, N. J.

June 7-9—Cleveland, Ohio
MUNICIPAL & FINANCE OFFICERS' ASSOCIATION OF THE UNITED STATES AND CANADA. Annual Meeting. (Hotel Cleveland.). Exec. Sec., Carl H. Chatters, 1313 E. 60th St., Chicago, Ill.

June 7-9—Syracuse, N. Y.
NEW YORK STATE CONFERENCE OF MAYORS AND OTHER MUNICIPAL OFFICIALS. Annual Convention. (Hotel Syracuse.) Exec. Sec., William P. Capes, 6 Elk St., Albany, N. Y.

***June 9-10—Greeley, Colo.**
COLORADO MUNICIPAL LEAGUE. Annual Meeting. (Hotel Canfield.) Sec., H. A. Storey, University of Colorado, Boulder, Colo.

June 12-16—Montreal, Quebec
CANADIAN FEDERATION OF MAYORS AND MUNICIPALITIES. Annual Conference-Cruise. (SS. St. Lawrence from Montreal.) Sec., Jessica Allan, Mount Royal Hotel, Montreal, Quebec, Canada.

June 13-16—Boston, Mass.
BUILDING OFFICIALS' CONFERENCE OF AMERICA. Annual Meeting and Conference. (Hotel Statler.) Sec.-Treas., Arthur N. Rutherford, Building Inspector, West Hartford, Conn.

June 13-16—Milwaukee, Wis.
AMERICAN WATER WORKS ASSOCIATION. Annual Meeting. Sec., Harry E. Jordan, 500 Fifth Ave., New York 18, N. Y.

June 14-16—St. Louis, Mo.
AMERICAN PLANNING AND CIVIC ASSOCIATION. Annual Conference. (Hotel Statler.) Exec. Sec., Harlean James, 901 Union Trust Bldg., Washington, D. C.

***June 16-17—Syracuse, N. Y.**
NEW YORK STATE SEWAGE WORKS ASSOCIATION. Spring Meeting. (Hotel Syracuse.) A. S. Bedell, New York State Department of Health, Albany, N. Y.

June 18-24—Greensboro, N. C. (Correction)
SOUTHEASTERN INSTITUTE FOR COMMERCIAL ORGANIZATION EXECUTIVES. Annual Session. (The Woman's College of the University of North Carolina.) Mgr., L. P. Dickie, Chamber of Commerce Bldg., Atlanta, Ga.

***June 19-21—St. Paul, Minn.**
NATIONAL ASSOCIATION OF TAX ADMINISTRATORS. Annual Meeting. (Hotel St. Paul.) Acting Exec. Sec., George H. Watson, 1313 E. 60th St., Chicago, Ill.

June 22-24—Philadelphia, Pa.
PENNSYLVANIA STATE ASSOCIATION OF BOROUGHS. Annual Convention. (Hotel Benjamin Franklin.) Pres., Thomas F. Christwaite, Hanover, Pa.

***July 3-8—Pittsburgh, Pa.**
NATIONAL EDUCATION ASSOCIATION OF THE UNITED STATES. Annual Business Meeting of the Representative Assembly. (Hotel William Penn.) Exec. Sec., Willard E. Givens, 1201 16th St., NW, Washington, D. C.

***July 17-18—Reading, Pa.**
PENNSYLVANIA CHIEFS OF POLICE ASSOCIATION. War Conference. (Hotel Berkshire.) Sec., F. B. Titus, Lansdowne, Pa.

***July 19-21—Cleveland, Ohio**
AMERICAN SOCIETY OF CIVIL ENGINEERS. Annual Convention. (Hotel Cleveland.) Sec., George T. Seabury, 33 West 39th St., New York 18, N. Y.

***July 23-29—Missoula, Mont.**
ROCKY MOUNTAIN INSTITUTE FOR COMMERCIAL ORGANIZATION EXECUTIVES. Annual Session. (Hotel Florence.) Sec.-Treas., J. R. Pratt, 1445 Rand Tower, Minneapolis, Minn.

***July 23-29—Dallas, Texas**
SOUTHWESTERN CHAMBER OF COMMERCE INSTITUTE. Annual Session. (Hotel Baker.) Manager, D. Hodson Lewis, 500 Chamber of Commerce Bldg., Dallas 2, Texas.

July 24-27—Syracuse, N. Y. (Correction)
NATIONAL ASSOCIATION OF COUNTY OFFICIALS. Second War Conference. (Hotel Syracuse.) Sec.-Treas., George F. Simmons, Ogden, Utah.

***Sept. 24-27—St. Paul, Minn.**
AMERICAN PUBLIC WORKS ASSOCIATION. Public Works Congress. (Hotel St. Paul.) Exec. Dir., Frederic Bass, 1313 E. 60th St., Chicago, Ill.

Oct. 12-14—Pittsburgh, Pa.
FEDERATION OF SEWAGE WORKS ASSOCIATIONS. Annual Meeting. (Hotel William Penn.) Sec., W. H. Wisely, 325-26 Illinois Bldg., Champaign, Ill.

Oct. 12-14—Pittsburgh, Pa.
PENNSYLVANIA SEWAGE WORKS ASSOCIATION. Annual Conference. (Hotel William Penn.) Sec.-Treas., Bernard S. Bush, c/o Department of Public Health, Kirby Health Center, Wilkes-Barre, Pa.

***Oct. 12-17—Chicago, Ill.**
THE INTERNATIONAL CITY MANAGERS' ASSOCIATION. Annual Conference. (Medinah Club.) Dir., Clarence E. Ridley, 1313 E. 60th St., Chicago, Ill.

Oct. 17-19—Austin, Texas
AMERICAN WATER WORKS ASSOCIATION—SOUTHWEST SECTION. Annual Meeting. (Hotels Driskill and Stephen F. Austin.) Sec.-Treas., George J. Rohan, P. O. Dr. 449, Waco, Texas.

* First appearance of notice on this page.

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Municipal and Civic Publications

Regional Planning

REGIONAL PLANNING. *An outline of the scientific data relating to planning in Great Britain. By L. B. Escritt. George Allen & Unwin, Ltd., London. American distributor: W. W. Norton & Co., Inc., 70 Fifth Ave., New York.* 1943. 263 *pp.* $5.

An important study emphasizing the value of regional planning today and showing how to coordinate physical and political characteristics in both regional and town planning. Geology, agriculture, economics, engineering, architecture, and the study of land use all have an essential bearing on sound planning, the author says, and the success of the planner depends upon his broad understanding of these factors, and his capacity to restrict himself to work he can do best while coordinating the efforts of others making contributions to his design. The first part of the book deals with the method of making a detailed survey of a region. The remaining sections are devoted to an outline of the earth and its products, natural and artificial drainage, water supply, municipal services and transport, and a brief bibliography of the most important publications in this new field of investigation.

Post-War Planning Framework

WICHITA'S POPULATION. *Report to the City Planning Commission, Wichita, Kan., by Harland Bartholomew and Associates, St. Louis, Mo. October* 1943. 56 *pp.*

A study intended to give general background and framework for the planning program of Wichita, Kan., covering (1) population and factors influencing its growth, such as employment; (2) social standards and standards of physical improvements, including housing, parks, schools, etc.; (3) financial data indicating trends of bonded indebtedness, assessed valuations, expenditures.

Land Use in Chicago

LAND USE IN CHICAGO. *Volume II of the Report of the Chicago Land Use Survey directed by the Chicago Plan Commission and conducted by the Works Projects Administration. A project sponsored by the City of Chicago, Edward J. Kelly, Mayor. Apply to Municipal Library, City Hall, Chicago, Ill.* 1943. *xvi* + 479*pp. Offset, 9½ inches by 12½ inches.* $2.

Presents in map form report on specific types of land use for over 600,000 parcels of land in Chicago. Two complete sets of maps show: (1) 19 classifications of land use by individual parcels; (2) 8 housing factors for each of the 20,300 blocks in the city. The completeness of the information makes it possible for any of the numerous agencies administering the many-sided functions affecting the hundreds of neighborhoods in Chicago to determine the character of any neighborhood and its facilities. On the information gathered here and in a similar survey of Residential Chicago published as Volume I in 1942, will be built the Master Plan for Chicago. For review of Volume 1, see THE AMERICAN CITY, October 1942. p. 103.

Michigan's Children Served

A REPORT OF SERVICES AVAILABLE TO MICHIGAN CHILDREN. *By the Michigan Correction Commission, State Office Building, Lansing, Mich.* 49 *pp.*

Summarizes activities of 33 agencies concerned with problems of crime prevention and juvenile delinquency in the state of Michigan. Includes tax, community fund, and privately supported departments, institutions, agencies, and foundations.

Revenue by Population Groups

CITY FINANCES: 1942. *U. S. Department of Commerce, Bureau of the Census. Vol. 2, No. 1. January,* 1944. 55 *pp.*

Topical report prepared by the Bureau of the Census that compares and lists the total revenues of population groups in cities with populations of 100,000 to 1,000,000.

Consolidation of Governmental Services

FISCAL ASPECTS OF METROPOLITAN CONSOLIDATION. *By Herbert A. Simon. Bureau of Public Administration, University of California, Berkeley. Vol. III.* 1943. 67 *pp.* $1.

Without assuming the necessity for consolidation of multiple governmental units, this study analyzes the services of local government in a metropolitan area to determine what implication the service pattern has for the problem of metropolitan organization. It shows what pooling of taxable resources to provide a uniform level of service would mean to residents of the San Francisco Bay area.

Scientific Dwelling Design

INTRODUCTION TO STUDIES OF FAMILY LIVING. *By John Hancock Callender. Research Study 4. The John B. Pierce Foundation, 40 W. 40th St., New York* 18. 25*c.*

A report on the preliminary steps, method, and scope of the Foundation's research project for gathering information on living habits and the physiological and psychological needs of people at home, on which dwelling design may be based.

Better Government—Less Cost

ELEVEN YEARS OF PIONEERING FOR BETTER GOVERNMENT AT LESS COST. *Pennsylvania Economy League, Inc., 123 S. Broad St., Philadelphia.* 1943. 16 *pp.*

A pamphlet listing the accomplishments and defining the purposes of the Pennsylvania Economy League. Stresses precise budgetary control, pay-as-you-go policies, and day-by-day review of administration in the state of Pennsylvania.

Post-War Adjustments

MARCHING HOME: EDUCATIONAL AND SOCIAL ADJUSTMENT AFTER THE WAR. *By Morse A. Cartwright. Published for the Institute of Adult Education. Bureau of Publications, Teachers College, Columbia University, New York.* 1944. *iv* + 44 *pp.* 25*c per copy or* 20*c in lots of* 10 *or more.*

Considerations relating to the training of community and national workers, leaders, and counselors to be concerned with the educational, vocational, social, and personal adjustment and rehabilitation of men and women leaving government service. Part 1 deals with the adjustment, training, and educational problems of the war veteran; Part 2 with the training of personnel for services to veterans. Bibliography.

Baltimore Housing Report

PUBLIC HOUSING IN BALTIMORE. *By the Housing Authority of Baltimore City. Third Report. 709-711 E. Eager St., Baltimore, Md.,* 44 *pp.*

A summary of two years' activity, 1941-42, during which the Authority completed its total 8,506 dwellings (practically double the number originally projected), occupying over 500 acres of land, and housing more than 20,000 people representing 4 low-rent, 1 army enlisted, and 10 war-industry groups. Includes report of financial disbursements and plans for new projects.

"Portland Improvement"

A REPORT TO THE PEOPLE ON THE MOSES PLAN. *By the City Club of Portland. Portland City Club Bulletin, Portland, Ore., January,* 1944. *pp* 8-100.

An examination in detail of the proposals of the Moses Plan of improvement for Portland, Ore., by a committee of the Planning and Public Works Section of the City Club of Portland. The Committee recommends many proposals without question; others, in its opinion, need further study. Findings leading to recommendations are briefly summarized under individual proposals.

Scientific Research and City Planning

QUALITY CONTROL IN CITY BUILDINGS THE CULTURAL FUNCTION OF ENVIRONMENTAL PLANNING. *By Hugo Leipziger. Reprinted from the Journal of Architecture, Engineering and Industry. College of Engineering, The University of Texas, Austin, Tex., January,* 1944.

With scientific research as the unique cultural trait of this age, no results of deep social significance in the physical planning of rural and urban areas may be expected, the author holds, without applying to this planning the scientific and philosophical conceptions and discoveries of our time. So far discussions in this field have been mere tinkering in comparison with the magnitude of scientific research in other fields, he says. Nor has quality control, so marked in war industry, found any proper place in the discussions. The City of Tomorrow will, he hopes, incorporate a vision of democratic principles in the form of characteristic environmental pattern as individual for today as was the Gothic city in the Middle Ages.

Fire Prevention for Small Municipalities

CODE OF SUGGESTED ORDINANCES FOR SMALL MUNICIPALITIES. *Prepared by the National Board of Fire Underwriters, 85 John Street, New York* 7. 1943. 46 *pp.*

Suggested building and fire prevention ordinances designed for adoption by towns and small cities having no legislation of this character or lacking sufficient legislation.

Syracuse Housing Authority

ANNUAL REPORT OF THE SYRACUSE HOUSING AUTHORITY, *Syracuse, N. Y. December* 1943. 14 *pp.*

Report of the Housing Authority of Syracuse, a public corporation established under law in 1935, of its activities during the past year along the lines of emergency and war housing, operation of the low-rental housing project, "Pioneer Homes," and post-war planning.

Tax Changes

RELATION OF THE WAR TAXES TO UTILITY RATE MAKING. *By John Bauer. Reprint from the Public Utilities Fortnightly. American Public Utilities Bureau, 250 Broadway, New York. February* 17, 1944.

A survey of the present tax situation in which the author endeavors to summarize tax changes, how they affect rate making, especially in the allowance for return on investment, and what adjustments in rate-making standards seem fair for consumers and investors.

Mr. Baruch Reports

WAR AND POST-WAR ADJUSTMENT POLICIES. *By Bernard M. Baruch and John M. Hancock. American Council of Public Affairs. Washington, D. C.* 1944. 131 *pp. Paper edition* $1. *Cloth* $2.

Superintendent of Documents, Government Printing Office. Washington, D. C. 1944. 108 *pp.* 20*c.*

Texts of the official report on War and Post-War Adjustment Policies, and related documents; the first including a summary index of recommendations and significant comments on the report; the second, a government publication, including the letter of Transmittal to Director James F. Byrnes, of the Office of War Mobilization, a report on War and Post-War Adjustment Policies and role of major war agencies, as well as the summary index of recommendations.

See also THE AMERICAN CITY, *March* 1944, *p.* 5, *for excerpts from this report.*

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Please give a full statement of your qualifications in your first answer to this advertisement, to enable me to determine if a personal interview would hold promise of being to our mutual advantage. Your reply will be held in complete confidence.

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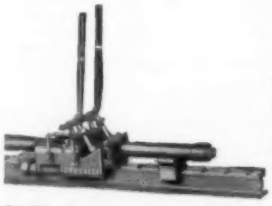

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A Greenlee Pusher is the modern way to install pipe underground for gas, electricity, water, sewers and telephone cable. There is no damage to lawns, sidewalks and pavement. On jobs like the one pictured above the pusher pays for itself the first few times used.

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Interregional Highways System

INTERREGIONAL HIGHWAYS. *A message from the President of the United States, transmitting a report of the National Interregional Highway Committee. House Document No. 379. Government Printing Office, Washington, D. C.* 1944. *xi + 184 pp.*

Report submitted to Congress by President Roosevelt on January 12, 1944, calling for designation and improvement to high standard of a national system of rural and urban highways, totalling approximately 34,000 miles. The recommended system follows in general routes of existing federal-aid highways and is planned to meet interregional and intercity needs for highway transportation, as well as to establish a transcontinental network of modern roads essential to the future economic welfare and defense of the Nation. An annual expenditure of $750,000,000 is tentatively estimated, approximately divided between urban and rural sections of the system. Illustrated with excellent tables, charts, and photographic reproductions.

Community Medical Service

COMMUNITY HOSPITAL AND MEDICAL PLANS. *By C. Rufus Rorem, Ph.D., C.P.A. A paper presented at the United States Chamber of Commerce Conference on Social Security, Washington, D. C. American Hospital Association, 18 E. Division St., Chicago. January* 1944. *16 pp.*

Definition and scope of the Blue Cross Plan of medical care and hospitalization with an analysis of its standards, scope of benefits, methods of operation, subscription rates, out-of-town benefits, finances, present enrollment of over 14 million Americans, and future plans.

Exterminating Mosquitoes

REPORT OF THE SUFFOLK COUNTY MOSQUITO EXTERMINATION COMMISSION. *Yaphank, Long Island, N. Y.* 1943. *24 pp.*

A record of the problems and methods used by the Mosquito Commission in combating the breeding of mosquitoes (1) in salt water marshes, (2) freshwater types including the annoying household mosquito, and (3) disease-bearing mosquito connected with the war. Necessity for killing in larvae stage emphasized; also combating any invasion of disease-infecting mosquitoes still unknown here. Charts and tables clarify methods of work and expenditures.

Home Defense League

HOME DEFENSE LEAGUES FOR THE FUTURE. *By William Phelps Eno. The Eno Foundation for Traffic Control, Inc., Saugatuck, Fairfield County, Conn.* 1944. *24 pp. 50c, postpaid.*

Slightly revised reprint of 1917 Manual of the Home Defense League, many provisions of which have recently been adopted in principle by the Allied armies in North Africa, and officially recommended to civilian authorities of Morocco, Algeria, and Tunisia—particularly those for road traffic control and safety rules for pedestrians.

Recreation—a New Essential

RECREATION NEEDS: TODAY—TOMORROW. *A report of the National Recreation Association in the second year of World War II. 315 Fourth Ave., New York* 10. 1943. *22 pp.*

A brief summary of typical recreational facilities for the armed forces of the Allies around the globe, for workers in war industries, and in youth centers throughout the United States.

Curfew Regulations

CURFEW REGULATIONS IN 57 OREGON CITIES. *Information Bulletin No. 57. Bureau of Municipal Research and Service, University of Oregon, cooperating with the League of Oregon Cities, Eugene, Ore. January* 1944. *Mimeo. 9 pp.*

A study of curfew regulations and their influence on curbing juvenile delinquency in Oregon, with emphasis on the necessity of such regulations being strictly enforced if effective results are to be expected. It notes curfew hours, penalties for violation, and gives a tabulated record of the operation of curfew regulations in these cities.

Planning with Vision

PLANNED CITYHOOD. *By Michael Rosenauer, F.R.I.B.A., A.I.A. A series of three articles reprinted from the December* 1943, *January and February* 1944, *issues of Town and Country,* 6TH *Madison Ave., New York. 11 pp.*

With changes in urban developments motivated by (1) exploitation of land and air transportation and (2) a growing awareness of the need for healthy living conditions, the author of these admirable articles, internationally known architect and urban planner, points out the importance of making master plans on a large scale. He advocates far-reaching proposals for traffic arteries and air centers as a means of imposing order on cities, and for producing neighborhoods within a city with each dwelling having a happy relationship between its outdoor space with green areas and sunlight, and its indoor quarters. He emphasizes the need for study of new land uses to meet demands for pleasant living while retaining essential urban functions; urges planning commercial, public, and private buildings in terms of function rather than tradition, and points out that with present mastery of all technical problems of building, a new style of simple forms with its own beauty must emerge in response to the changing pattern of social life, as has happened throughout history in eras of social change.

Pennsylvania's Debt

THE DEBT OF THE COMMONWEALTH OF PENNSYLVANIA AND ITS LOCAL SUBDIVISIONS. *Report No. 1 by the Committee on Continuation of the Tax Study to the Joint State Government Commission. Pennsylvania Economy League, Inc., 123 S. Broad St., Philadelphia 9. December* 1943.

Devoted to the analysis and description of the debt of the Commonwealth of Pennsylvania, its political sub-divisions, and other debt-creating agencies within the Commonwealth.

Urban Neighborhood Stability

THE HOUSING MARKET IN NEW YORK CITY. *By Herbert S. Swan. A study made for the Institute of Public Administration. Reinhold Publishing Co., 330 West 42nd St., New York.* 1944. *vi + 204 pp.* $2.

Housing, a vital part of the larger social organization of the community, partakes, in the view of the author, somewhat of the character of a civic institution. In this study of New York housing—applicable to many cities—he not only shows the interrelation between the whole fabric of housing and urban life but also the interrelation of various housing levels with one another. He calls attention to the role that housing plays in the thrift and industry of a city and points out the fact that the financial and administrative mechanisms of dwellings have in the past been devised and operated almost without reference to their impact on the social and economic aspects of the home structure in the community. He is concerned with neighborhood stability and the causes of blighted areas. To this end he examines the housing market and residence neighborhoods, the demand for rental dwellings and owned homes, old dwellings and new construction, incomes as related to housing, and residence construction and business trends.

British Civil Service

CIVIL SERVICE STAFF RELATIONSHIPS. *By E. N. Gladden. Wm. Hodge & Co., Ltd., London.* 1943. 12s.6d. *xi + 184 pp.*

One of the most useful studies of personnel relations in the public services yet to appear. It is the first comprehensive account of this aspect of the British Civil Service, covering not only the Whitley Council system but all other aspects of rank-and-file relations with the superior staff. All factors of staff conferences, self-organization of employees, bargaining relations, and related questions are treated historically and analytically. The study will be especially useful to American administrators, as a basis for comparing American practices and for developing relevant procedures from tested experience in Great Britain.

PHILLIPS BRADLEY

Debt-Free Milwaukee Plans Modestly

PROPOSED SIX-YEAR PROGRAM OF PUBLIC IMPROVEMENT, 1944-1949 INCLUSIVE, CITY OF MILWAUKEE. *Submitted November 27, 1943, by the Long Term Improvement Program Technical Committee. City of Milwaukee.* 1943. *95 pp. Free.*

A practical plan to meet the problems of reconstructing and maintaining the municipal plant of Milwaukee after 12 years of neglect. Members of the Common Council and the Boards, Commissions, and Departments under the Common Council submitted suggestions for a city-improvement program to the Technical Committee which weighed the proposals and adopted the present plan as essential to preserve community well-being. The program is based on an annual improvement expenditure of $3,800,000, exclusive of large street-paving appropriations. Provides for few new projects but calls for annual revision of the program leading toward a comprehensive Master Plan with more radical developments. An historical survey of the city's financial and physical planning from 1923 to 1943, gives the background for the present program. Reports available from the Secretary of the Technical Committee, Municipal Reference Library, Room 803 City Hall, Milwaukee 2, Wis.

Retirement Systems

RETIREMENT SYSTEMS. *A series of articles published in Municipal Finance, Official Organ of The Municipal Finance Officers Association of the United States and Canada, 1313 E. 60th St., Chicago. February* 1944. *50c.*

Includes articles by various authorities on Justification of Retirement Provisions, Objectives of Retirement Systems, Disability Provisions, Accounts and Records, Investments of System's Moneys, Examination of Retirement Systems, Public Employee and Social Security, Benefits Under Social Security Act, and Industrial Pensions and Social Security Act. Bibliography.

Food and Nutrition

FOOD AND NUTRITION. *Compiled by Aras Jaboolian, Public Health Division Librarian. February 11,* 1944. *Free on application to Municipal Reference Library, 2230 Municipal Building, New York 7, mimeo. 7 pp.*

A selected list of books and pamphlets published since 1940 available in the Public Health Division of the Municipal Reference Library, 125 Worth St., New York 13, New York.

Library Administration

THE ADMINISTRATION OF THE AMERICAN PUBLIC LIBRARY. *By E. W. McDiarmid and John McDiarmid. The American Library Association and the University of Illinois Press, Chicago.* 1943. *250 pp.* $3.

A survey of the administration of American public libraries, dealing with problems involving governmental relations, the place of the board and executive, the departmental organization of the library, finance, planning and coordination, and personnel of 315 municipal libraries in cities which had (1930 census) a population of 30,000 or over, and with library staffs of from 10 to over 300. Prepared chiefly for student of library problems, and public administration. Bibliography. Study made possible by the Carnegie Corporation of New York.

The Business Side of the Public Library

PUBLIC LIBRARY: FINANCE AND ACCOUNTING. *By Edward Wight. American Library Association. Chicago.* 1943. *xi + 137 pp.* $2.75.

Presents up-to-date application of modern business methods in library transactions, together with careful planning and budgeting to maintain proper relationship with other departments of city government which are affected by same conditions as the library. Correct technical terms used in text provide uniform terminology badly needed in library accounting and financing field.

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Public Medical Care

MEDICAL MANUAL.—*Schenectady County Department of Public Welfare and Board of Child Welfare, Court House, Schenectady, N. Y.* 1943. 64 *pp.*

Manual of regulations governing the administration of medical care to the indigent in Schenectady County. Presents the policies and procedures which have been developed as the result of many years of experience in the administration of a public medical program providing the physician-of-choice authorized on a fee-for-service basis.

Water Treatment Plants

SOURCE DATA ON MUNICIPAL WATER TREATMENT PLANTS IN THE UNITED STATES.—*By M. C. Schwartz. Louisiana State University Press, Baton Rouge, La.* 1943. 52 *pp.* 50c.

Bibliography of source data on municipal water treatment plants in the United States, arranged alphabetically by cities.

Chicago Post-War Planning

THE SUN LOOKS AHEAD TO POST-WAR CHICAGO. *The Chicago Sun, Chicago, Ill.* 1943. 23 *pp.*

Three articles reprinted from the September and October issues of *The Chicago Sun*—"Chicago's Post-War Problems," by Milburn P. Akre which reveals some of the factors to be taken into consideration in planning; "Chicago's Traction Tangle," by Robert Lasch pointing out the need for a unified transit system; and "Chicago's Air Future," by Mr. Akre suggesting possibilities for airport planning.

Economic Insecurity in England

ENGLAND'S ROAD TO SOCIAL SECURITY.—*By Karl de Schweinitz. University of Pennsylvania Press, Philadelphia, Pa.* 1943. 281 *pp.* $3.

A detailed analysis of the manner in which England has dealt with the problem of economic insecurity over a period of six hundred years. The work is both historical and analytical, covering the entire range of English effort from the Statute of Laborers in 1349 to the Beveridge Report of 1942, and presenting an informative study of the chief problems involved in the administration of poor relief and social insurance. A valuable bibliography is appended listing the laws, statutes, parliamentary debates, reports of royal commissions, books, and other original source material on the subject.

City Expenditures

CITY FINANCES: 1942. *U. S. Department of Commerce, Bureau of the Census. Vol. 2, No. 3. February* 1944. 65 *pp.*

Third of a series of topical reports prepared by the Bureau of Census. Compares total city expenditures during 1942 for cities of over 25,000 population.

Other Reports Received

LEE, MASS.—Annual Report of the Officers of the Town of Lee, for the year 1943. 83 pp.

MILTON, MASS.—The 107th Annual Report of the Town of Milton. 1944. 305 pp.

IPSWICH, MASS.—Report of the Town Officers of Ipswich, for the year 1943, the 310th year of the town's incorporation. 303 pp.

PORTLAND, ORE.—Annual Report of the City Auditor for the fiscal year ended June 30, 1943.

LOUISVILLE, KY.—Annual Report, Director of Finance, City of Louisville, Ky., for the fiscal year ended August 31, 1943. 80 pp.

RICHMOND, VA.—The Bonded Debt of the Virginia Cities as of December 31, 1942. Report No. 275. League of Virginia Municipalities, 902 Travelers Bldg., Richmond, Va. January, 1944. Mimeo. 14 pp.

TEANECK, N. J.—The Proposed 1944 Budget and Township Manager's Report. Township of Teaneck. 32 pp.

ATHOL, MASS.—Thirty-Eighth Annual Report of the Water Commissioners of the Town of Athol, for the year 1943. 20 pp.

What 12 Americans Think About
URBAN REDEVELOPMENT and POSTWAR HOUSING

Block-busters have not devastated our cities. Nor incendiary bombs gutted our homes and factories. But we shall need every ounce of inventiveness and teamplay to win them back as sites for the American way of life.

LOULA D. LASKER, housing editor of Survey Associates, leads off a sheaf of articles in **Survey Graphic** for April—telescoped from outstanding addresses at the Conference on Postwar Housing held last month by the National Committee on Housing.

They deal with redevelopment of substandard urban areas, construction stabilization, financial proposals—to cope with blighted areas . . . with objectives for public and private housing, labor's outlook, taxation incentives (pro and con) . . . with why the states must rally to their cities now as spearheads of the common welfare.

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The Contributors:

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ALVIN HANSEN, special adviser, Federal Reserve Board

M. H. HEDGES, director of research, Brotherhood of Electrical Workers

BRYN J. HOVDE, president, National Public Housing Conference

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IRA S. ROBBINS, acting State Commissioner of Housing, New York

DOROTHY ROSENMAN, chairman, National Committee on Housing

BEARDSLEY RUML, chairman, Federal Reserve Bank of New York

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—Send $2 for trial subscription to Survey Graphic for 12 months—including this April issue, and also (while they last) our February special number on AMERICAN RUSSIAN FRONTIERS, with articles by Vice-President Wallace, Donald M. Nelson (Chmn., WPB), Rhys Williams, Richard B. Scandrett, Jr., Edgar Snow, Walter Duranty and a score of other experts. (128 pages, with maps, charts, photos.)

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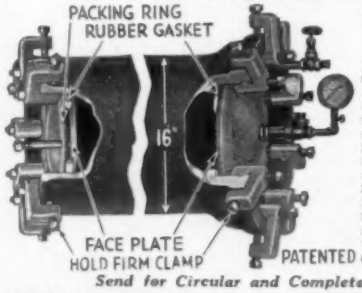

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News and Illustrations

ITEMS OF INTEREST TO CITY, TOWN AND COUNTY OFFICIALS AND OTHERS CONCERNED WITH THE ECONOMICAL CONSTRUCTION AND EFFICIENT OPERATION OF PUBLIC IMPROVEMENT UNDERTAKINGS

Dow Chemical Attacks Charge of German Cartel Connection

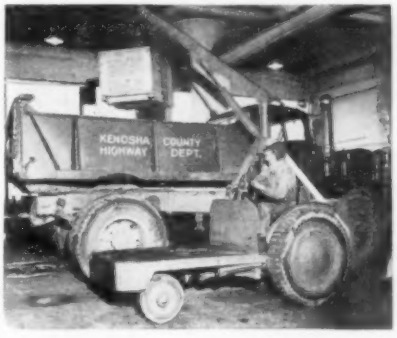
Vigorously attacking the charge by the Department of Justice linking his company with a German cartel, Willard H. Dow, President of The Dow Chemical Co., Midland, Mich., recently told the Truman Committee in a special session called on magnesium: "The Department of Justice has at various times and in various places tried to force into the Dow war record certain charges growing out of peacetime operations. It pretends these charges are proven facts. By deduction, it claims both The Dow Chemical Co. and the nation were less able than they should have been to meet the magnesium needs of the war emergency. Every act complained of by the Department of Justice as against the public interest was actually in the public interest and, if anyone impeded the magnesium program—it was not Dow.

"The Dow Chemical Co.," said Dr. Dow, "has been unfairly treated. It has served the nation in spite of and not because of the Government. The magnesium program of the Government, and consequently the service of supply to the Allies, was made possible by the foresight of The Dow Chemical Co. in having ready the facilities for production when and as the materials were needed.

"In 1942, the critical year in magnesium production, Dow produced 84.2 percent of all the magnesium output in the country and the Dow "know how" produced 91.2 percent.

"The alloying and fabrication program of the Government, and consequently the use of the metal in airplane building, was made possible only because of the independent research and developments, through the years, of The Dow Chemical Co."

Dr. Dow presented figures showing that his company had brought the price of magnesium down from $5 a pound in 1915 to 21 cents a pound in 1939 and that at Freeport, Texas, it had not only established a plant for extracting magnesium from sea water, for the first time in the world, but had also established a well-rounded chemical industry to serve the South. "In short, gentlemen," concluded Dr. Dow, "we believe that the Dow record in magnesium is one of the highest public service. We ask you to affirm or negate that belief."



Showing the Drott Go-Devil Tractor Crane in operation

Tractor Crane for Loading and Unloading

A new-type tractor crane has been announced by the Hi-Way Service Corp., 3841 W. Wisconsin Ave., Milwaukee 8, Wis. Known as the Drott Go-Devil Tractor Crane, the outfit takes over most types of lifting, loading, transporting and unloading both indoors and outdoors.

The unit is power-hydraulic steered and may be turned under all conditions, with loaded platform, and without effort on the part of the operator. All controls are easily within his reach and he handles all functions from his seat.

Traction provided through large pneumatic tires and oversize solid front tires permits the outfit to carry loads quickly over soft ground or up steep inclines. The unit has a positive hydraulic up-and-down power that enables the boom to handle loads weighing up to 2,000 pounds. Outriggers prevent the outfit from tipping under the heavier loads.

The boom swings a full 375 degrees, has an extension to 90 inches and reaches a height of 14 feet 2 inches. There is a 10½-foot turning radius and traveling speeds up to seven miles per hour. The loading space of the platform is twenty square feet.

Autocar Building Commercial Trucks Now

Nearly 3,000 strictly heavy-duty trucks for commercial use wil be built this year by The Autocar Company, Ardmore, Pa., in accordance with a government allocation order. This was disclosed in the annual report of this company which was mailed recently to the stockholders.

This quota of commercial heavy-duty trucks assigned to Autocar was reported to be greater than that which the government allocated to any other motor truck manufacturer for vehicles of this type.

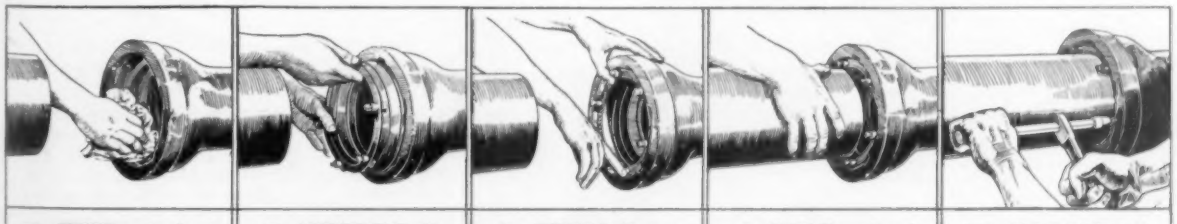
Production of new heavy-duty trucks has again begun on a limited basis but restricted by the availability of essential material. Partial conversion from military to commercial production has been accomplished with a minimum loss of time.

Pre-War Pipe Joint Re-enters Market

Style 85 Bellmaster Joint for cast-iron pipe, an early war casualty, is now re-entering the municipal market according to a recent release by the Dresser Manufacturing Co., Bradford, Pa.

Style 85 was first introduced in 1941; because of urgent war work cast-iron pipe manufacturers were, however, unable to extend facilities to supply the Bellmaster pipe. Thus it was necessary to withdraw this type of joint from the market. Today, makers are able to deliver the pipe again and to ship joints promptly, Dresser Manufacturing officials state.

In the Bellmaster, Dresser engineers have developed a light, compact, mechanical joint that they assert is fast, flexible, and tight. Test results have been extremely satisfactory and the joint is already in service. Sizes are available from 3 to 16 inches C.I.P.



1 WIPE out spigot end of pipe and inside surface of bell in the usual way.

2 INSERT Bellmaster in bell-end of pipe with cap-screws facing out.

3 TURN Bellmaster Joint to the right until "lug" hits stop in bell.

4 STAB spigot end of pipe into Bellmaster Joint to full depth of bell.

5 TIGHTEN screws uniformly with Dresser Bellmaster wrench.

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A "SCOTCHLITE" sign gives you the clarity and efficiency of a standard painted sign plus the outstanding advantage of nightime reflection. It is flexible, easy to handle, and readily adaptable to all types of sign lettering. Available in four colors; white, yellow, silver or red—standard colors for all types of traffic, warning, direction and barracade signs and markers. Why not try "SCOTCHLITE" on your signs?

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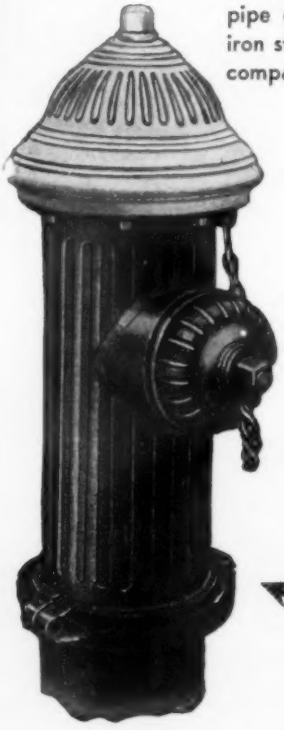

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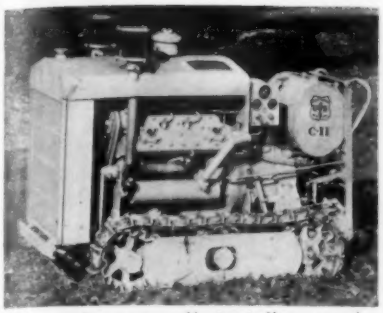

Schramm's new self-propeller crawler type compressor gets to the places that are hard to reach.

Self-Propelled Air Compressor

Here is a new development in air compressor that will interest many cities. This is a small hard-hitting powerful compressor that can be transported under its own power in the roughest kind of terrain where it would be utterly impossible to haul larger compressors with their trailer type mountings.

The compressor is a Schramm 60 cubic-foot self-propelled crawler type. Complete specifications will be found in catalog No. 4215 issued by Schramm, Inc., West Chester, Pa.

AWWA Elects New Officers

Harry E. Jordan, Secretary of the American Water Works Assn., 500 Fifth Ave., New York, announces the election of the following officers at a meeting of the Nominating Committee held recently:

Samuel F. Newkirk, Jr.—President
Leonard N. Thompson—Vice-President
Wm. W. Brush—Treasurer

These officials will take office at the close of the Annual Water Works Conference to be held in Milwaukee, June 13 to 16.

Portable Searchlight Provides Daylight Illumination

Municipal departments, particularly fire and police departments, will find many applications for the Big Beam Portable electric searchlights manufactured by U-C Lite Mfg. Company, 11 E. Hubbard St., Chicago, Ill. These lamps will provide daylight visibility in emergency or regular routine night work.

The beam of the 411 Big Beam will project for a distance of over 2,500 feet. Interchangeable lens diffuse the same volume of light over a wider area for close-up work. By the use of accessory equipment it is possible to fasten the lamp to any flat surface with very little trouble, and it may be quickly removed when the need arises. The lamp head can be turned in any direction and when in position stays adjusted.

Other models are available and a folder illustrating them and discussing their various uses and specifications may be obtained by writing the company.

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when you plan that new project

Protection is a vital part of every public park, playground or building

IF you are planning a public project, let us remind you that good, sturdy fence is an important consideration. *Playgrounds* need a good strong fence like Cyclone to keep children from darting into the street—to keep out undesirables. *Swimming Pools, Parks, Stadiums* need fence to control admission, protect public property from vandals. *Water Works, Power Plants* and *Schools* must be kept safe from mischief-makers. Fence should be included in your original plans.

Let us help you. Our engineers are available for consultation. They'll be glad to advise you in choosing the right fence for your needs. These men have their own knowledge and training to call upon – plus the background experience gained by Cyclone in more than 50 years' leadership in the fence industry.

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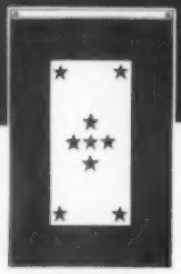

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Representatives for Builders and Omega

Announcement of changes in their representative arrangements have been made by Builders-Providence, Inc., 9 Codding St., Providence 1, R. I., and Omega Machine Co., 3409 E. 18th St., Kansas City, Mo. W. D. Taulman & Associates, 610 Red Rock Bldg., Atlanta, Ga., will handle the products of both concerns for water- and sewage-works applications in Eastern Tennessee and in Alabama, Florida and Georgia. The Florida office of this agency, under the supervision of C. L. Timmons is located at 1463 Talbot Ave., Jacksonville, Fla.

John R. Purser Sales Engineers, Inc., Charlotte, N. C., will continue to handle Builders' line of flow meters, flow controllers, liquid-level gauges, and in addition will add Omega's line of gravimetric and volumetric dry chemical feeders for all applications in North and South Carolina.

Omega's line of products for power-plant and industrial applications will be taken over by Mr. Evans L. Shuff, 412 Title Bldg., Atlanta, for Georgia, Alabama, Florida, and all of Tennessee. Mr. Shuff will continue as Builders' "industrial" representative.

Placing the forms around one of the steel "cages" preparatory to the pouring of a reinforced concrete pipe

Welded Steel Cages for 106-Inch Concrete Pipe

Steel pipe was first considered for the circulating water tunnels in the construction of the Harbor Steam Plant for the Department of Water and Power, City of Los Angeles, Calif., but due to war conditions, had to be abandoned in favor of reinforced steel concrete pipe. Tests have shown the concrete pipe to be 10 percent cheaper than steel pipe, saving essential war material, having much quicker delivery, and probably longer life in sea water.

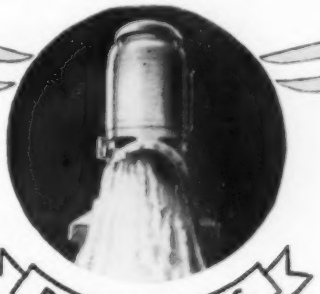
One of the most important items in the making of the pipe was the steel cages for reinforcing the concrete. These cages were made by first winding $\frac{3}{8}$-inch of plain reinforcing steel on the mandrel and welding to horizontal spacers; then the rod ends were welded together to additional $\frac{1}{2}$-inch horizontal spacers. Where welded bars were used for transverse reinforcement, each weld had to test to a stress of 40,000 pounds per square inch of bar.

In preparation for pouring the concrete, these cages were lowered over inside steel form, then the outside steel form is lowered over the cage and tightly closed. The forms in which the concrete pipes were cast consisted of an inner and outer steel form, a fabricated metal bottom ring and steel top ring. The inner and outer forms were welded of 8-gauge sheet and were of sufficient thickness to prevent distortion when the concrete was poured. It was necessary that they be accurately made to the dimensions shown on the plans for the inner and outer diameters of the finished pipe, 96-inch I.D., 106-inch O.D. All plates had to fit together tightly so there could be no leakage of mortar while the pipe was being cast and vibrated.

A total of 4,976 lineal feet of this 106-inch O.D. Steel Reinforced Concrete pipe was made and laid at a total cost of $211,480, and 491 tons of reinforcing steel rods and bars were used in the welding of the cages, this alone coasting $30,636.

WM. A. SHELTON
American Concrete and Steel Pipe Co.
Los Angeles, Calif.

EDITORIAL NOTE: This was the prize-winning article in the Hobart Arc Welding News Contest of The Hobart Brothers Co., Troy, Ohio.



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are you planning now for BETTER POSTWAR HIGHWAYS?

When Victory is won, your highway construction plans will play a vital part in making jobs for returning service men and workers now in war industries. It is desirable and important that these plans be ready.

It is also important that they be truly "plans for the future." Postwar highways must not be subject to the ills of so many of our present roads, where annual breakups hike maintenance budgets and delay traffic.

Experience proves that wet and spongy subgrades are a major cause of road surface failures. Isn't it logical to make certain that postwar roads are built on a stable foundation? You can help do this by specifying ARMCO Perforated Pipe wherever it is needed to intercept and remove harmful groundwater. Then maintenance costs will remain low while traffic enjoys a smooth, safe, uninterrupted ride.

So include ARMCO Perforated Pipe in your plans for the future, even though you may not be able to get it for immediate construction. You'll like its flexible corrugated metal strength, tight joints, and immunity to damage from shifting soils, traffic impact or severe frost action. Write for whatever information you may need. Armco Drainage Products Association, 415 Curtis St., Middletown, O.

ARMCO

ARMCO PERFORATED PIPE

The driving of sheet piling often becomes an easy and relatively inexpensive job when compressed air is brought into play. This illustration shows sheeting being laid preparatory to the construction of a sewage line.

Compressed Air Provides a Portable Pile Driver

In line with many other modern construction tools, today's pile driver for the lighter operations is lightweight and runs on compressed air.

Powered by compressed air taken from the air line of the normal portable or stationary compressor, the pile driver will handle 2-inch, 2½-inch, or 3-inch wooden sheet piling, or it will also handle round piling by shaping the pile ends to fit the driving head of the machine. Short steel-sheet piling is being driven by the pile driver in many construction operations.

According to the Compressed Air Institute, 2511 Terminal Tower, Cleveland 13, Ohio, the modern air-pile driver is recommended for, and used on such applications as water and gas main repair trenches, tiling projects where soft aggregate requires side support, conduit laying, small culvert installations, bridge repairs, and for driving sheet piling in any sand, gravel or shale where piling will penetrate without breaking.

The design features of the compressed air-pile driver are essentially those of the familiar paving breaker. A suitable driving head is made a part of the machine and the driving is by rapid blows with little vibration.

Liquid Level Control

The B/W floatless controls are of prime importance in the maintenance of liquid levels in elevated tanks. Through the use of this equipment it is possible to maintain liquid levels within ¼-inch variations. Neither pressure, vacuum, acids nor chemicals in the liquid affect the operation of the controls. Electrodes can be stationed any distance from the relay—available in all AC voltages and cycles. The controls are available in AC voltages and cycles.

A 28-page catalog, Number 943, giving additional details on the operation of the B/W floatless controls may be obtained by writing B/W Controller Corp., Birmingham, Mich.

Cochrane Adds Rotameters to Instrument Line

Cochrane Corporation, Philadelphia, Pa., announces the acquisition of exclusive sales rights to the line of Rotameters manufactured and formerly sold by Rotameters, Inc., of Jenkintown, Pa. According to P. S. Lyon, President of the Cochrane Corporation, this is a logical addition to the Cochrane meter line, as Cochrane has manufactured and sold a recording area type meter for the past seven years and the addition of rotameter, or indicating type of area meter, rounds out the line.

No change will be made in the personnel of the two companies, William C. Bennett being manager of Cochrane's appliance division, with W. W. Tomes in charge of sales, and William Melas in charge of engineering, while for Rotameters, Inc., J. B. Vandegrift, recently appointed general manager, is associated with Alfred Elsasser, technical director, Robert C. Wolf, chief engineer, Reynold Wilson and Joseph Madden, glass technologists, and Howard Forepaugh, office manager, several of whom helped pioneer the development of the American rotameter into a successful measuring device with interchangeable precision-bore tubes. The Rotameter will be sold by Cochrane flow meter representatives.

SEWAGE TREATMENT PLANTS

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Spiraflo Clarifiers

and

Aero-filter Bulletin 112

Low initial cost.

Low operating cost.

WATER TREATMENT PLANTS

Send for Bulletin 36

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SAVE *time, money, headaches*

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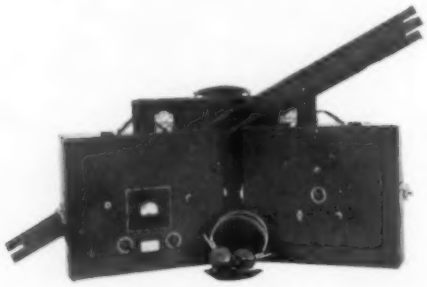
FISHER M-SCOPE INSTRUMENTS

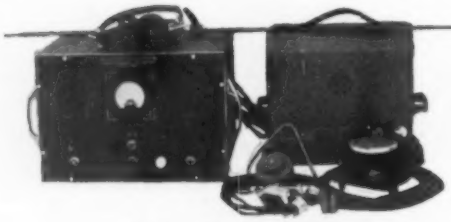
The Fisher M-Scope Pipe Finder is successfully solving the varied problems involved in the development, operation and maintenance of buried pipe and cable systems.



M-Scope Pipe Finder

- It locates the exact position of the object
- It traces the exact course of an underground line
- It determines the difference between a buried pipe and a single metal object
- It works positively and instantaneously
- It prevents accidental damage by diggers
- It eliminates exploratory excavations
- It saves time, labor, money

M-Scope Energizer Type Pipe Finder



M-Scope Water Leak Detector

Use the **Fisher M-Scope Water Leak Detector** to determine the exact location of a leak. Its use will enable you to

- **Locate exact position of pipe line leak**
- **Determine where to break pavement when leak appears on the surface**
- **Solve the problem of "unaccounted for" water or oil**
- **Reduce operating expenses**
- **Increase net revenue**
- **Every leak is an unmetered user**

THE FISHER M-SCOPE BOX LOCATOR

will locate valves, covered manholes, drip and service boxes, etc., as fast as you can cover the ground at walking speed. Do away with the old and slow dip-needle method. Liberal trade-in allowance on your old dip-needle.

Write to the Fisher Research Laboratory for latest 16-page booklet explaining the above methods. M-Scope Equipment is exclusively manufactured by the Fisher Research Laboratory. Please place your order now for immediate delivery from our Palo Alto, California or Chicago, Illinois warehouses.

Fisher M-Scope Box Locator

FISHER

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Des Moines Engineers Club Celebrates 25th Anniversary

The Engineers' Club of Des Moines, Iowa, celebrated its 25th anniversary on March 9 of this year in connection with a 100-year celebration of the city of Des Moines.

Monroe L. Patzig

The organization actually antedates this since a group having similar aims was organized in 1905 but went out of existence in 1914 because of war activities. In 1918 it was reorganized and chartered under its present name and has been in existence ever since.

The Club has among its members many leading mid-western engineers. Monroe L. Patzig, President of the Patzig Laboratories, Des Moines, Iowa, well-known testing and research concern, has been Secretary and Treasurer of the Club since its reorganization.

Fire Extinguisher Group Elects Officers

At the recent meeting held in Chicago of the Chemical Fire Extinguisher Association, the following officers were elected for the new term:

Arthur G. Sullivan of the Buffalo Fire Appliance Corp., Buffalo, N. Y., President.

J. O. Binford, Gen. Sales Mgr. of the American-LaFrance-Foamite Corp., Elmira, N. Y., was re-elected Vice-President.

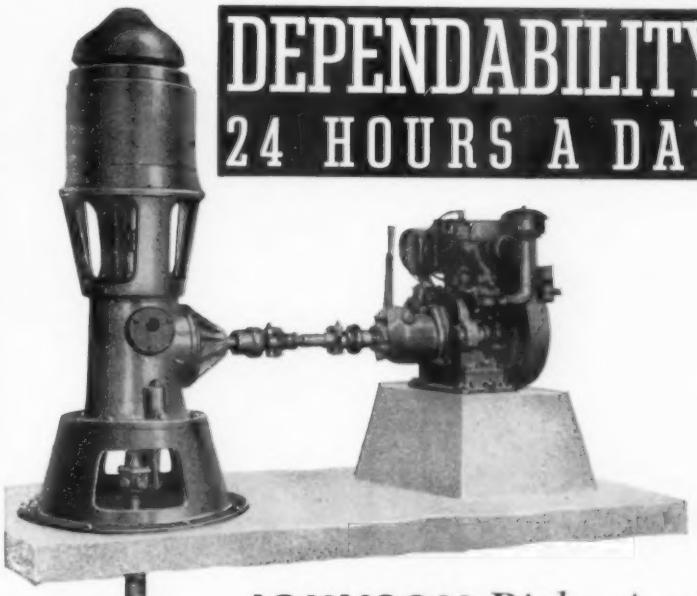
H. W. Diener of the Geo. W. Diener Manufacturing Co. of Chicago, Ill., was chosen Treasurer and W. J. Parker, of New York City, Commissioner.

George W. Boucher of Pyrene Manufacturing Co., Newark, N. J., and Everett A. Warren of the General Detroit Corp., Detroit, Mich., and former President of the Association, were elected to serve on the Board of Directors with the above-mentioned officers.

New District Office for Heil

The Heil Co., Milwaukee, Wis., announced recently the opening of an additional sales office by their Southwest Sales Representative, Howard Mann. This is located in the Irwin-Keasler Bldg., 1700 Commerce St., Dallas, Texas.

The rapidly growing demand for Heil products in this area led to the opening of this special office. Mr. Mann will represent the company in the sale of all its lines including truck tanks, "trailerized" tanks, truck bodies and hoists, and road machinery.



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24 HOURS A DAY

JOHNSON *Right-Angle* PUMP DRIVE

★ SEWAGE ★ WATER WORKS ★
FIRE FIGHTING ★ FLOOD CONTROL

The Johnson Right-Angle Gear Drive is used as a "connecting unit" between the pump and the power unit. Illustration shows a combination application. These drives are manufactured in a variety of types and sizes, each designed to meet the specifications of a wide range of applications—Sewage Disposal; Water Supply; Fire Fighting; Flood Control; etc.

★ EFFICIENT ★ DEPENDABLE
★ ECONOMICAL ★ COMPACT
★ FULLY ENCLOSED ★ LONG LIFE

The Johnson Right-Angle Gear Drive is sold through Pump and Engine Manufacturers—their local representative will explain the many advantages of this drive which is used by scores of municipalities. Write for Catalog No. 12.

JOHNSON GEAR & MANUFACTURING CO., LTD.
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Eastern Distributors of FISHER M-SCOPE *and* LEAK DETECTORS

Joseph G. Pollard Co., Inc.

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PIPE LINE EQUIPMENT

. . . Out of Reach . Out of Luck . . .

GOOD roads are as beneficial to the farmer in a business sense as they are to the motorist in a pleasure sense. Almost any rural [illegible]munity that will plan ahead can [illegible] the right T[illegible]ia roads as [illegible] [illegible]ements.

TIMES HAVE CHANGED BUT NOT THE STORY

In 1930, Barrett published this advertisement championing the cause of the farmer. Yet, despite fourteen years of unprecedented road-building activity, Pearl Harbor found this country with 1,474,445 miles of roads still unsurfaced. This means that in the present crucial war period thousands of people are being denied quick and easy access to major traffic routes.

Actually, all over the country, the plight of the farmer "out of reach and out of luck" is more difficult than ever before. Today, under the stress of accelerated use and unavoidable wartime neglect, even the surfaced "feeder" roads are wearing out and breaking down.

In fact, the problem of secondary roads is one which far-seeing highway officials realize must be dealt with *first* in post-war planning.

Barrett Tarvia is a prime factor in these plans. This famous basic road-building and maintenance material has already proved its practical value to tax-conscious communities in making possible economical construction by local labor — using local materials. The Tarvia field man will gladly give you full details, help you with the development of your post-war program.

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Providence . . Rochester . . Minneapolis . . Cleveland . . Columbus . . Toledo . . Youngstown
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Barrett Tarvia*

*Trade-mark Reg. U.S. Pat. Off.

Baker Appointed Chairman APWA Planning Committee

Michael Baker, Jr., of The Baker Engineers, Rochester, Pa., has been appointed Chairman of the Planning Committee of the American Public Works Association, according to an announcement made recently by Frederick Storrer, President of the Association.

GRAULE STUDIOS

Michael Baker, Jr.

In accepting the appointment Mr. Baker stressed the immediate need for planning post-war public works as "one of th most important functions of planning which any level of government faces today. I do not feel that communities should enter into piecemeal designing or planning of public works until sufficient study has been given and plans made for a long-range program, into which all designing and construction will fit for the systematic growth and development of the community and its environs."

Mr. Baker's firm is now engaged in the engineering design and survey work on the $20,000,000 Penn-Lincoln Parkway in Pittsburgh. In addition it has been employed in various engineering capacities on construction projects throughout the Western Hemisphere and is doing work in many sections of South America.

1943 *Financial Report for Worthington Pump*

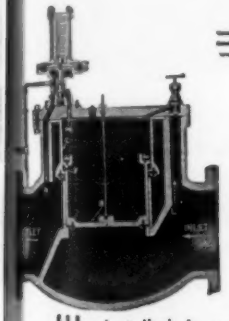
H. C. Beaver, President of Worthington Pump and Machinery Corp., Harrison, N. J., announced recently that billings for the year 1943 increased 47 percent over sales in 1942 and were the largest in the 103-year history of the company.

Net income before taxes for 1943 was $25,271,490, an increase of 67 percent over the 1942 figure of $15,094,330. Net income after provisions of $19,703,000 for Federal Income and Excess Profit Taxes, of $2,555,000 for contingencies, and of $788,000 for post-war rehabilitation amounted to $2,942,490, an increase of 6.7 percent over the 1942 net income of $2,758,890.

Under renegotiation agreements the company refunded $551,426 on which final payment was made prior to December 31, 1943.

Last year the corporation paid off its bank loans, cleared up accumulations on its 7 percent and 6 percent preferred stocks, and resumed dividends on the common, declaring $2 a share in December.

Worthington's unfilled order balance at the beginning of 1944 was approximately the same as a year earlier.



SINGLE ACTING SEMI-THROTTLING ALTITUDE VALVE

★

Installed in upstream line to tanks, standpipes or reservoirs, this valve sensitively maintains any desired water level to prevent overflow.

The valve is semi-throttling by gradually closing as water approaches the maximum water level to be controlled. The valve is self-contained without any waste of water from above the valve piston, and is especially desirable for service where a low head is to be maintained against a higher influent pressure.

Write for Specifications

GOLDEN-ANDERSON VALVE SPECIALTY CO.

Fulton Building Pittsburgh, Pa.

The Mark of Quality

TC TENNESSEE CORPORATION

TENNESSEE CORPORATION ferri-floc FERRIC SULPHATE

IN THE THEATRES OF WAR PRODUCTION - - -

FERRI-FLOC

Saves Money ***Saves Man Hours***

Through the efficient part it plays in the manufacture of:

Shell-Casings

Foam Fire-Fighters for use aboard ships

Synthetic Rubber

Insulating Board for ships and barracks

Mineral Pigments for paint and camouflage

Through its important role in:

Boiler Feed-Water Treatment in War Plants. Water Purification in Army, Naval and Air Bases. Sewage Treatment in Army, Naval and Air Bases.

Yet to all users on the HOME-FRONT, FERRI-FLOC is still available without priorities.

Write for Actual Case Histories

We salute Tennessee Copper Company, source of our raw materials, for their untiring efforts which have permitted our other plants to carry on at full capacity; and we share their pride in their recent award of the Army and Navy E.

ARMY E NAVY

Tennessee Corporation

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Electrical Corrosion Control

Our proven cathodic method — approved by hundreds of enthusiastic users from coast to coast, provides permanent protection against rusting of water tanks, piping and steel structures.

Initial cost of a comp'ete installation is about equal to the cost of a good paint job. Operation costs only about 2 mills (i.e. $0.002) per year per square foot of surface protected. Electrode type, or our new Electrode-less type, that keeps all parts of the system on the outside of the tank to avoid fouling from icing. Send for full details today!

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The "HEET-MASTER" will produce as much "hot stuff" as two ordinary type oil-burning kettles of the same capacity. Used by leading road and airport contractors. Send for FREE Bulletin No. 194AC. For Cut-Back and Emulsion Sprayers, Bulletin No. 190A. Oil-burning Lead and Pipe Compound Melting Furnaces, Bulletin No. 232AC. Portable Oil Burner & Torch Outfits, Bulletin 174A. Asphalt Paving Tools & Accessories, Bulletin 312A. Asphalt Paving Tool Heaters and Asphalt Pavement Heaters, Leaflet 171A.

Aeroil Burner Co., Inc., West New York, N. J.

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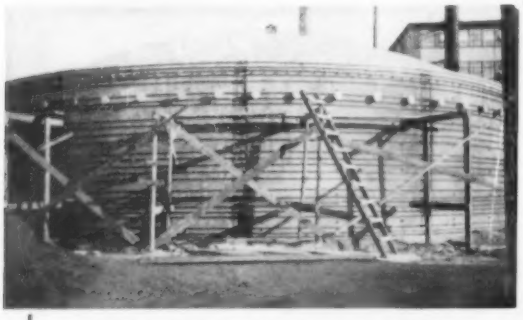

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One of our Prestressed Tanks, nearly completed is shown here. Bands have been placed and stressed on inner walls and dome. A 2-inch GUNITE cover coat will now be shot on—finishing the job and producing a dense strong watertight tank, in a short time and at low cost.

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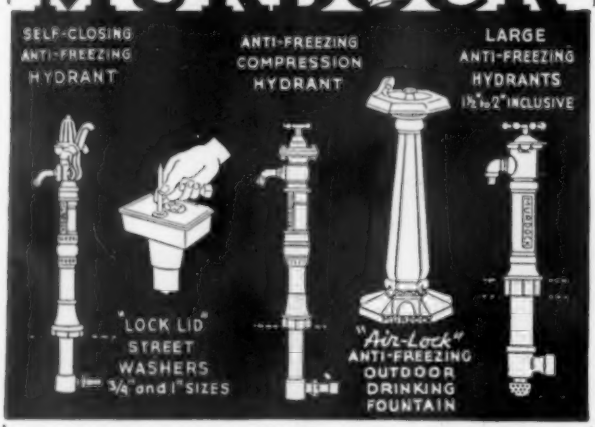
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ANTI-FREEZING COMPRESSION HYDRANT
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"LOCK LID" STREET WASHERS ¾" and 1" SIZES
"Air-Lock" ANTI-FREEZING OUTDOOR DRINKING FOUNTAIN

NOT on "Absentee" Lists

Neither in this country nor in Canada will you find MURDOCK Outdoor Water Service Devices listed as "absentees."

They are designed to operate EVERY day in the year. They are anti-freezing. Unfailing, dependable, seldom require attention and the occasional rewashering can be made without digging up fixture.

Everybody says "It Pays to Buy MURDOCK."

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KWIK-MIX BITUMINOUS NON-TILTING MIXER

An End Discharge mixer for applying cold or hot laid bituminous mixtures to new surfaces, for re-facing and for maintenance. The wide, quick acting discharge gate of the non-tilting drum reduces the time between batches. This light weight, portable unit can be quickly spotted and because of the end discharge advantage the mixer can be conveniently pulled away from the discharged material. Equipment includes two burners which can be easily removed for controlling temperatures.

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KWIK-MIX CONCRETE MIXER CO.

PORT WASHINGTON . . . WISCONSIN

This is the way municipal police departments adapt the walkie-talkie for use by their forces.

Municipal Uses of the Walkie-Talkie

Fire and police departments in the post-war era may be equipped with walkie-talkies to fight fire and crime with radio as a result of some of the developments brought about by military needs. Some of the possibilities were outlined by H. F. Mickel, Manager of the Police and Emergency Communications Section of RCA Victor, Camden, N. J., at a recent conference of the International Municipal Signal Association in Philadelphia, attended by signal system experts and officials of various cities.

As an early possibility in the public safety field, Mr. Mickel suggested that firemen carrying walkie-talkie sets small enough not to hamper them could be directed inside a blazing building by an officer on the outside. This same technique could be employed in combatting forest fires.

Mr. Mickel forecast also the equipping of all foot and traffic policemen with tiny two-way radio sets with which they could keep in constant touch with headquarters.

While declaring the possibilities to be almost limitless, Mr. Mickel stated there would be no sudden transition from the present status. Improvement and expansion of existing equipment and methods would be the rule rather than making the equipment obsolete overnight.

Discussing the probability of communication systems using higher frequencies Mr. Mickel said that this would result in lower-powered transmitting equipment, and smaller-sized apparatus, and that communications systems might therefore be more readily controlled to cover the exact areas desired. "Perhaps this will open the way for many new radio applications and services," said Mr. Mickel.

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to Multiply, I merely set in the amounts, copy the answer, and touch 'clear' key. Everything is electric and automatic ...and it's just as easy to divide, add, or subtract."

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TRUE FIGURE DIALS FOR ALL 3 FACTORS

All 3 factors stand in full review upon completion of every Marchant multiplication . . . showing at a glance a complete dial proof of correctness, with each amount properly pointed off by decimal."

Deliveries according to WPB schedule.

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SALES AGENCIES AND MANUFACTURER'S SERVICE STATIONS GIVE SERVICE EVERYWHERE

Locate Underground Leaks
Without Digging With A
GLOBE GEOPHONE!

(Registered U. S. Patent Office)

Simple to operate. Anyone can use it successfully. Does not require engineering skill or any technical knowledge. A mechanical type instrument. No fragile parts to be serviced and replaced.

The GEOPHONE works on the principle of the seismograph. Placed in contact with the earth, it accurately detects, by sound, the position of leaks in underground water or steam pipes. Leaks are too costly to be ignored—a pinpoint size leak wastes 65,000 gals. of water annually! A GEOPHONE saves the cost of locating leaks—saves the cost of surveys, excavating, replacing. A big-paying investment for water, sewerage and Public Works Departments—for any plant with underground water or steam pipes.

Outfit complete with two GEOPHONES, connecting tubes, earphones, in heavy leather carrying case with shoulder straps ---------- $75

Write at once to

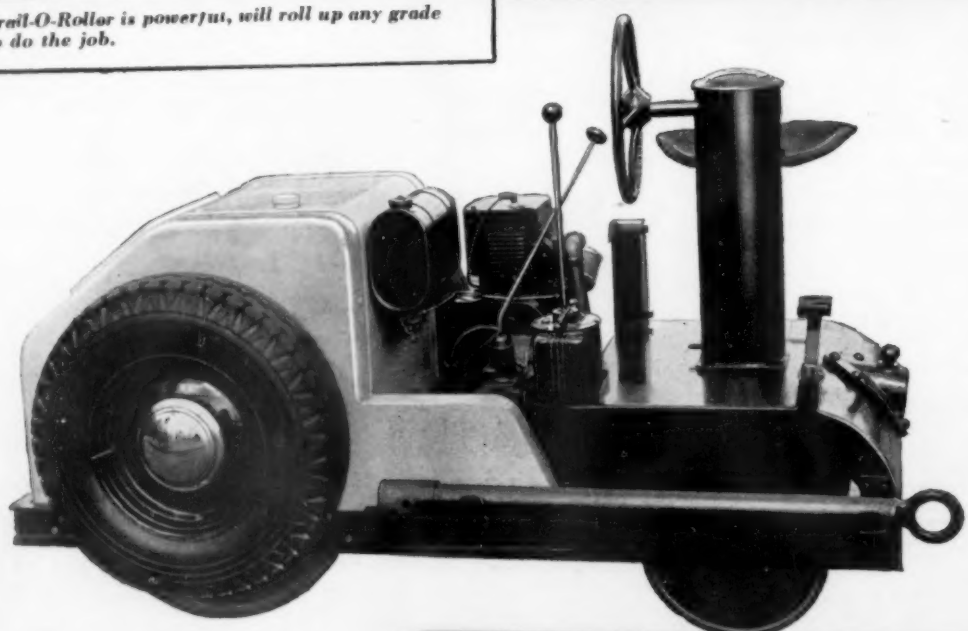
Globe Phone Mfg. Corp. Dept. H Reading, Mass.

TRAIL-O-ROLLER

It Rolls! It Trails! Changes from one position to the other in 2 minutes time. Yet gives as much compaction as a 5-ton tandem roller. The Littleford Trail-O-Roller is used to roll roads, streets, highways, parking areas, airport runways, playgrounds, etc. For permanent work, roll each job with a Trail-O-Roller. It's easy to operate, compact and efficient in operation.

Operator sits in comfortable position in operating the Trail-O-Roller.

Trail-O-Roller is powerful, will roll up any grade to do the job.



BLACK TOP ROAD MAINTENANCE EQUIPMENT LB SINCE · 1900

LITTLEFORD

Littleford Bros., Inc.
500 E. Pearl St., Cincinnati, Ohio

Pyrene Announces Advancements

George H. Boucher, General Manager of the Pyrene Manufacturing Co., Newark, N. J., manufacturers of fire extinguishers and tire chains, announced the advancement of the following personnel:

Truman Young

Nelson Bauer is now Assistant General Sales Manager. Mr. Bauer has been Newark District Manager since 1929. He joined the company's Research Department in 1922, served as production superintendent of the company's tire chain plant, and entered the Sales Department in 1928.

The new Newark District Manager is Raymond F. Poole, former Assistant District Manager at Chicago. Mr. Poole has been with the organization for five years and was sales representative in Wisconsin before going to Chicago.

Replacing Mr. Poole as Assistant District Manager at Chicago is Frank R. Kachel who has been a sales representative in Chicago since 1933.

Announcement is also made that Truman Young, Assistant Advertising Manager, is now Advertising Manager of Pyrene, and continues as Advertising Manager of their affiliate, the C-O-Two Fire Equipment Co., Newark, N. J. Mr. Young had been associated with the Advertising Department of Pyrene since 1933.

Bacon Foresees Post-War Prosperity

George W. Bacon, of Ford, Bacon & Davis, whose half-century of engineering activities has been world-wide in scope, predicted recently that this country will enjoy a post-war era of unprecedented prosperity.

Mr. Bacon, Chairman of the Board and a founder of the company, was the central figure in a celebration, held at the general offices at 39 Broadway, New York City, on the company's 50th anniversary. James F. Towers, President of the firm, presented Mr. Bacon with a commemorative medal on behalf of his associates.

"Post-war prosperity in the United States, if not the world, will far exceed during its first quarter of a century any business activity for a like period the world has ever witnessed," ventured Mr. Bacon in addressing a gathering of more than 300.

WATER AND SEWAGE TREATMENT EQUIPMENT

Accelators • Aerators
Accelo-Filters • Activators
Chemical Feeders
Coagulators • Clarifiers
Filter Plant Equipment
Hydraulic Controls
Lime Slakers
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Sewage Samplers
Water Softeners

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INCORPORATED
Formerly INTERNATIONAL FILTER CO.
325 W. 25th PLACE • CHICAGO, ILL.

SPARLING MAIN-LINE METERS

Home of Navy Uses 50 Sparlings

LONG BEACH, California, has been Sparling-minded for 20 years. This year's purchases brought their total to over 50 Sparling Meters. War work calls for a lot of water!

SPARLING Tube Meters are as easy to install as a length of the pipe itself on any main-line from 2-inch up—Flanged, Threaded, or Bell & Spigot.

Saddle-type meters can be mounted on lines in place in a couple of hours.

•

Of even greater importance is the Consistent Accuracy of measurement assured when you install Sparling Meters.

•

Bulletin 308 comes at your request

R. W. SPARLING *Manufacturer of Water Measuring Equipment*

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"Water Buffalo" Amphibian Tanks, built by Food Machinery Corp., are making history in the South Pacific.

Both Built for Ruggedness

The "Water Buffaloes" that carry our fighting men through the water, over the reefs, through swamp and jungle, straight to their objective, have to be built downright "tough." So do BEAN Sprayers that operate at 600- 700- and 800-lbs. pressure, throwing the spray stream to the tops of the tallest trees. The same designing and manufacturing skill goes into both.

JOHN BEAN MFG. CO.

Division of Food Machinery Corporation

9 HOSMER STREET • LANSING 4, MICHIGAN
105 WEST JULIAN STREET • SAN JOSE 5, CALIF.

Yes, We're Still Making Time-Tested MONO-CAST Centrifugal Pipe

Under suitable priorities, of course. Fittings also available.

Note: Foresighted managers are planning now to replace substitutes with Cast Iron Pipe at war's end.

AMERICAN CAST IRON PIPE COMPANY

Birmingham
Alabama

Sales Offices: New York, Los Angeles, San Francisco, Chicago, Kansas City, Minneapolis, Dallas, Houston, Pittsburgh, Cleveland.

CUT MAINTENANCE COSTS 75%

Concrete slab maintenance costs can be reduced as much as 75% by the Koehring Mud-Jack Method. The Mud-Jack raises sunken concrete walks, curbs and gutters, driveways, streets, and airport runways eliminating reconstruction costs. Write for the new Mud-Jack Bulletin which is both illustrative and descriptive.

KOEHRING HEAVY DUTY

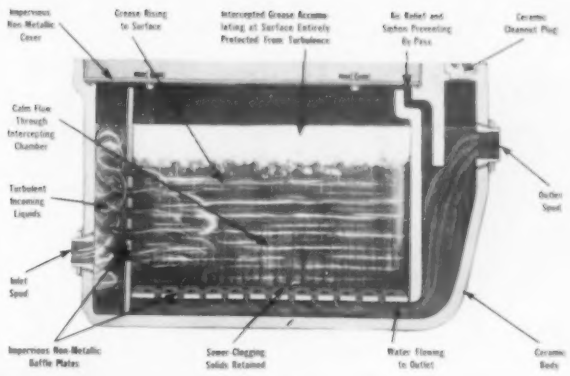
KOEHRING COMPANY
Milwaukee, Wisconsin

MUD-JACK METHOD

War-Developed Grease Interceptor Proves Superior

The modern grease interceptor such as is manufactured by J. A. Zurn Mfg. Co., Erie, Pa., is a compact device, designed for connection to drainage lines from sinks and dishwashing machines, above or below the floor, adjacent to the fixtures it serves. Equipped with baffles to eliminate the turbulence of the waste water as it enters the intercepting chamber, the device separates and recovers fats and greases by the flotation principle. Sizes suitable for a variety of installations are available, with capacities of 5 to 35 gallons per minute and with fat retention capacities varying from 10 to 125 pounds.

When war needs restricted the use of cast iron of which the grease interceptors were commonly made, manufacturers developed vitreous glazed earthenware construction which eliminated as much as 98 percent of the critical metals formerly required. Some of these "wartime models, so successfully resist thermal shocks from alternate surges of extremely hot and cold water and have performed so successfully at cantonments and elsewhere that manufacturers have expressed the intention to continue interceptors of this kind in their lines, offering a choice of either cast iron or earthenware devices in the post-war period.



Cut-away view showing how the Zurn grease interceptor separates and recovers grease by the "flotation" method.

Schwarzler Heads Foxboro Export Department

Charles Schwarzler has been named head of the Export Department of The Foxboro Co., Foxboro, Mass., makers of controlling, recording, and indicating instruments for controlling temperature, pressure, flow humidity and level.

Charles Schwarzler

Mr. Schwarzler was formerly manager of the Sales Promotion Department for Foxboro and has had ten years' experience in the application, promotion, and sale of Foxboro instruments.

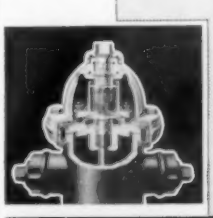
Archer Engineers Take New Offices

The consulting engineering firm of E. T. Archer & Company has moved from the New England Building where they have been located for the past 30 years to 114 West 10th St., Kansas City 6, Mo.

They have recently completed their services for the Government which consisted of four prime contracts ranging from a twenty-one million dollar cantonment to a seven million dollar airbase, and are now ready to resume their customary engineering work where they left off in 1940.

SELF-OILING ASSURES POSITIVE ACTION !

The Self-Oiling Feature on the Mueller-Columbian Fire Hydrant means that this hydrant oils itself automatically. All operating mechanism in the top or bonnet section are constantly immersed in an oil bath which prevents rust or corrosion, eliminates excessive wear, and insures easier turning of the operating nut. There is no tugging or straining to open or close a Mueller-Columbian.



MUELLER CO.
CHATTANOOGA, TENN.

A BEAUTY!

protect it!

The day your steel storage tank is filled, corrosion starts its destructive work on the inside. By means of the *RUSTOP System of cathodic rust control*, under-water corrosion can now be banished *instantly, completely* and *permanently* . . . from old tanks or new. No draining, sandblasting or painting. No service interruptions . . . no taste. Costs pennies per month to operate. *Guaranteed.* Write for full information. ELECTRO RUST-PROOFING CORP., Dayton 10, Ohio.

RUSTOP ELECTRO RUST-PROOFING CORPORATION

INCINERATION ENGINEERS
NICHOLS ENGINEERING & RESEARCH CORPORATION
60 WALL TOWER NEW YORK, N. Y.
Consultants • Designers • Constructors

HOW WOULD YOU LIKE THEM ON YOUR FORCE?

Some day our hard-riding fighting men will be back in the "good old U. S. A." Instead of policing around the world, many of them will be candidates for places in your department. These experienced riders and the war-proved Harley-Davidsons will make a great combination for handling postwar traffic control and law enforcement work.

Plan now for the future of your department — built on a secure foundation of fast, rugged, dependable Harley-Davidson Police Motorcycles. No other method can equal the efficiency of motorcycle-equipped squads for certain types of police duty. Men on Harley-Davidsons can cover more territory—concentrate quickly at scenes of trouble — have greater speed and flexibility of action. What's more, they establish much closer contact with the public . . . and exercise more lasting and effective control through consistent evidence of uniformed authority.

HARLEY-DAVIDSON MOTOR CO., Milwaukee 1, Wisconsin

Harley-Davidson Motorcycles are available now for vital police needs. See your dealer.

HARLEY-DAVIDSON

Police Motorcycles

★ ON AMERICA'S FRONT LINES OF ACTION ★

Asphalt Institute Elects Officers

The Asphalt Institute, 801 Second Ave., New York 17, N. Y., at their recent annual meeting of the Board of Directors elected F. V. Widger of The Texas Company Chairman of the Executive Committee. J. A. Blood, Standard Oil Company of California; F. R. Field, Standard Oil Company of New Jersey; A. M. Maxwell, Standard Oil Company of Ohio; H. B. Pullar, Berry Asphalt Company; D. D. Williamson, Talco Asphalt and Refining Division, Southport Petroleum Company of Delaware; and H. R. Pauley, The Petrol Corporation, complete the committee.

Frank V. Widger

The five Vice-Presidents elected are listed as follows, with their respective regional jurisdiction:

F. R. Field—Atlantic Seaboard-Southern
A. M. Maxwell—Ohio-Great Lakes
H. B. Pullar—Mid-West
D. D. Williamson—Gulf
H. R. Pauley—Pacific Coast.

Bernard E. Gray was re-elected General Manager-Chief Engineer and Herbert Spencer, President of the Institute. George R. Christie, Standard Oil of New York, is still Secretary and Treasurer and John N. Smith of the same company continues as Assistant-Treasurer.

The election of The Derby Oil Company, Wichita, Kan.; Lion Oil Co., El Dorado, Ark; and Skelly Oil Co., Tulsa, Okla., to the Board brings the total membership up to 38, the largest in the history of the Institute.

As Chairman of the Executive Committee, Mr. Widger is the coordinating head of the engineering and research activities of this national association of producers of the petroleum asphalt industry. Mr. Widger has been associated with the Asphalt Sales Department of The Texas Company since 1913, having been located at that time in Chicago. In 1937 he was transferred to New York and made Manager of the Asphalt Sales Department, the position he now holds.

Lamp Sales Manager Appointed by Westinghouse

Appointment of Russell E. Ebersole as Lamp Sales Manager of the Westinghouse Lamp Division, Bloomfield, N. J., was announced by Ralph C. Stuart, Manager.

In his new position, Mr. Ebersole will have charge of all district sales activities of the Lamp Division and will make his headquarters at Bloomfield.

R.D. COLE QUALITY

TANKS
TOWERS
STANDPIPES
STACKS
KIERS
KETTLES
VATS
AIR RECEIVERS
WELDED STEEL PIPE
DIGESTERS
BOILERS
BINS
FABRICATED FRAMEWORK

MARITIME "M" MERIT AWARD

Tank Builders for over 80 Years

R. D. COLE MFG. CO.
Established 1854
NEWNAN, GEORGIA

TO USE LESS FIBRE . . . USE FRESH FIBRE

The longer mileage you obtain from fresh broom fibres means less time-taking refilling of the broom core and valuable man-hours put to an extra use. The use of fresh, high-quality fibres in your mechanical sweeper is sound economy these days.

We are able to service every need in all types and sizes. We would be happy to receive your request for samples and quotations.

AFRICAN BASS FIBRES

INDIA PALMYRAH STALKS

MOUNTAIN HICKORY SPLINTS

STEEL WIRE SWEEPER STALKS

The OTTO GERDAU CO.

82 Wall Street, New York 5, N. Y.

USE

WATER METERS *NOW* TO CONSERVE WATER!

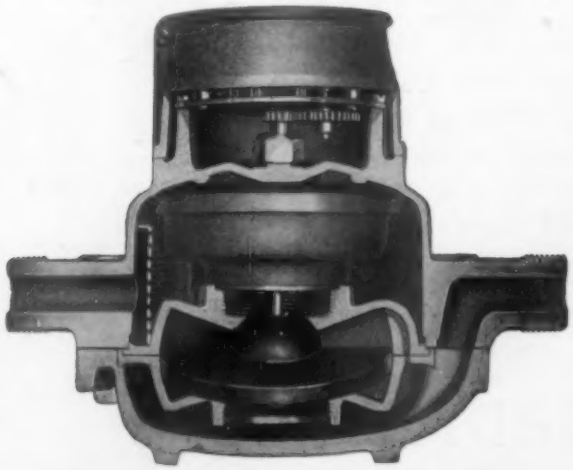
Plans for post-war metering of water services are excellent, provided the water system can wait that long. But war-time conservation means ***"Save Water Now!"***

The War Production Board request for waterworks conservation of water, coal, oil, chemicals can best be answered by pumping less. Meters are readily available to do their part in stopping waste to reduce pumpage. They make conservation financially profitable as well as patriotic.

You are invited to write for full information on Niagara Water Meters, with pre-war quality in all working parts.

BUFFALO METER COMPANY

2902 Main Street **Buffalo 14, N. Y.**



Flink - Faster - Lower Cost Ice Control & Seal-Coating

SAVED $7,000

A northern city writes, "We saved about $7,000 spreading sand alone our first season. Paid for the cost of Flink spreaders nearly 6 times over."

Another city writes, "Ice is no longer a problem. Now we get our intersections covered fast."

Let us show you these and other letters.

The truck driver operates the Flink one-man spreader. For this reason, and because it spreads faster, one truck with a Flink spreader does as much as 3 trucks with hand shovelers . . . an answer to the manpower shortage. The Flink spreader fits all standard dump bodies—does not limit use of truck. Spreads all granular materials up to 1" wet dry, forward or backward, full width or half width of street. A Flink spreader will pay for itself in 60 days in labor saved—in extra spreading. Write for literature.

THE FLINK COMPANY

Streator, Illinois

For particulars write nearest representative:

WICO SALES, 2924 N. Western Ave., Chicago 18
G. W. CLEMENTS, 3050 Freemont St., Columbus 4, Ohio
WIS. OIL & EQUIP. CO., 34 Park Ave., Oshkosh
TULSA MACHINERY CO., Tulsa, Okla.
NORTHLAND DeLUXE EQ. CO., Janesville, Wis.
C. R. HANSON, 2303 Grand Ave., Kansas City, Mo.
H. C. JORDAN, Irvington, Ky.

WANTED: TRAINED ADMINISTRATORS

☆ Cities all over the country are losing some of their top administrators to the federal and state governments and to defense industries. Unless there are trained replacements for these key men, city governments will be seriously crippled. If you are a department head, you owe it to your city to train an "understudy" for your job. If you are a junior administrator, now is the time to prepare for advancement.

Enroll now in one of these nine practical correspondence courses:

- Technique of Municipal Administration
- Municipal Finance Administration
- Municipal Police Administration
- Municipal Recreation Administration
- Local Welfare Administration
- Municipal Personnel Administration
- Municipal Public Works Administration
- Municipal Fire Administration
- Local Planning Administration

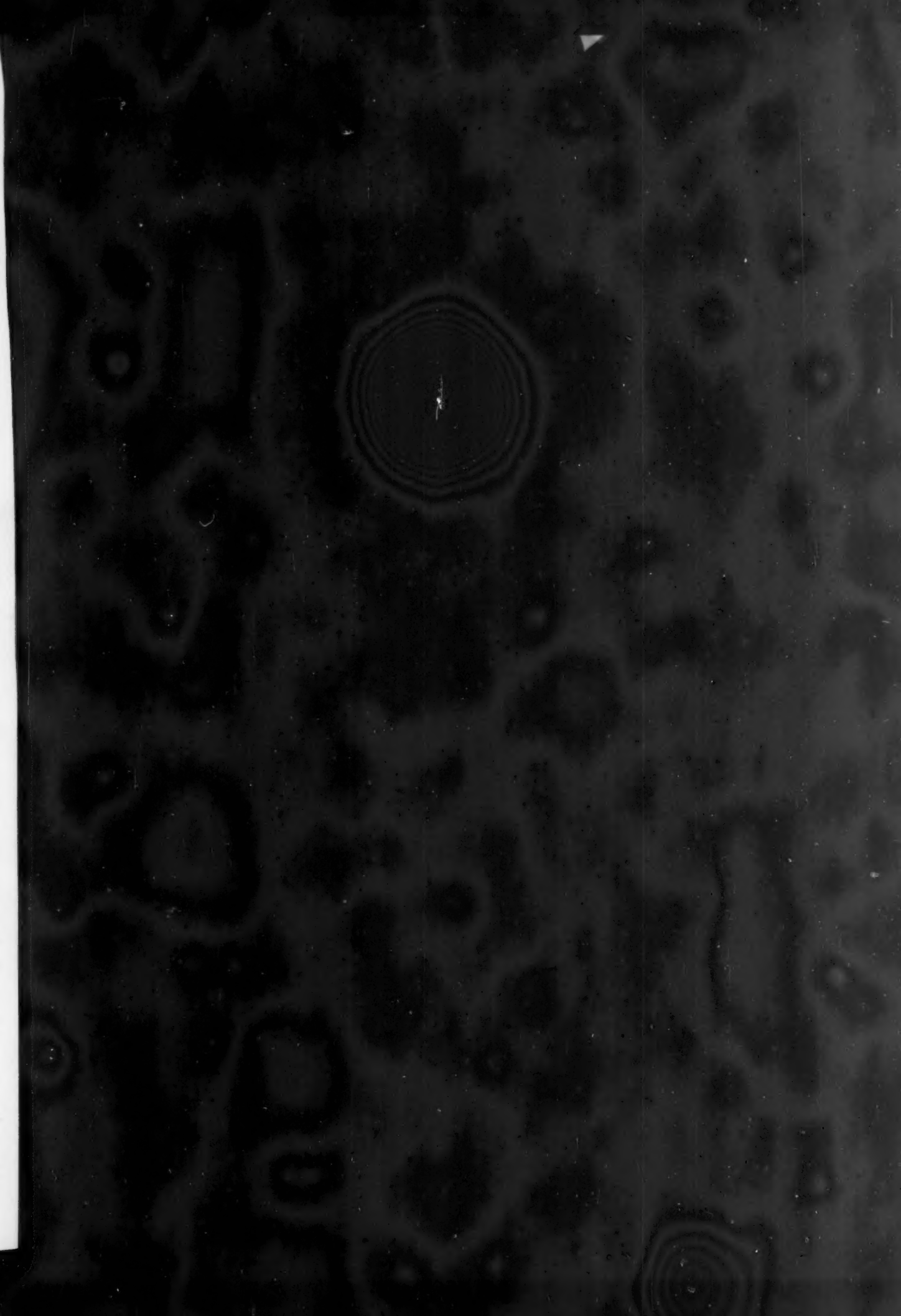
☆ Special texts have been prepared for administrators on the job. Lesson papers are reviewed by leading authorities in each field. The $35 fee for each course covers the text, individualized lesson instruction, and a certificate upon satisfactory completion of the work. The text alone sells for $7.50 a copy—$60 for a complete set. For use in group training projects, in lots of five or more, the price is $6 a copy.

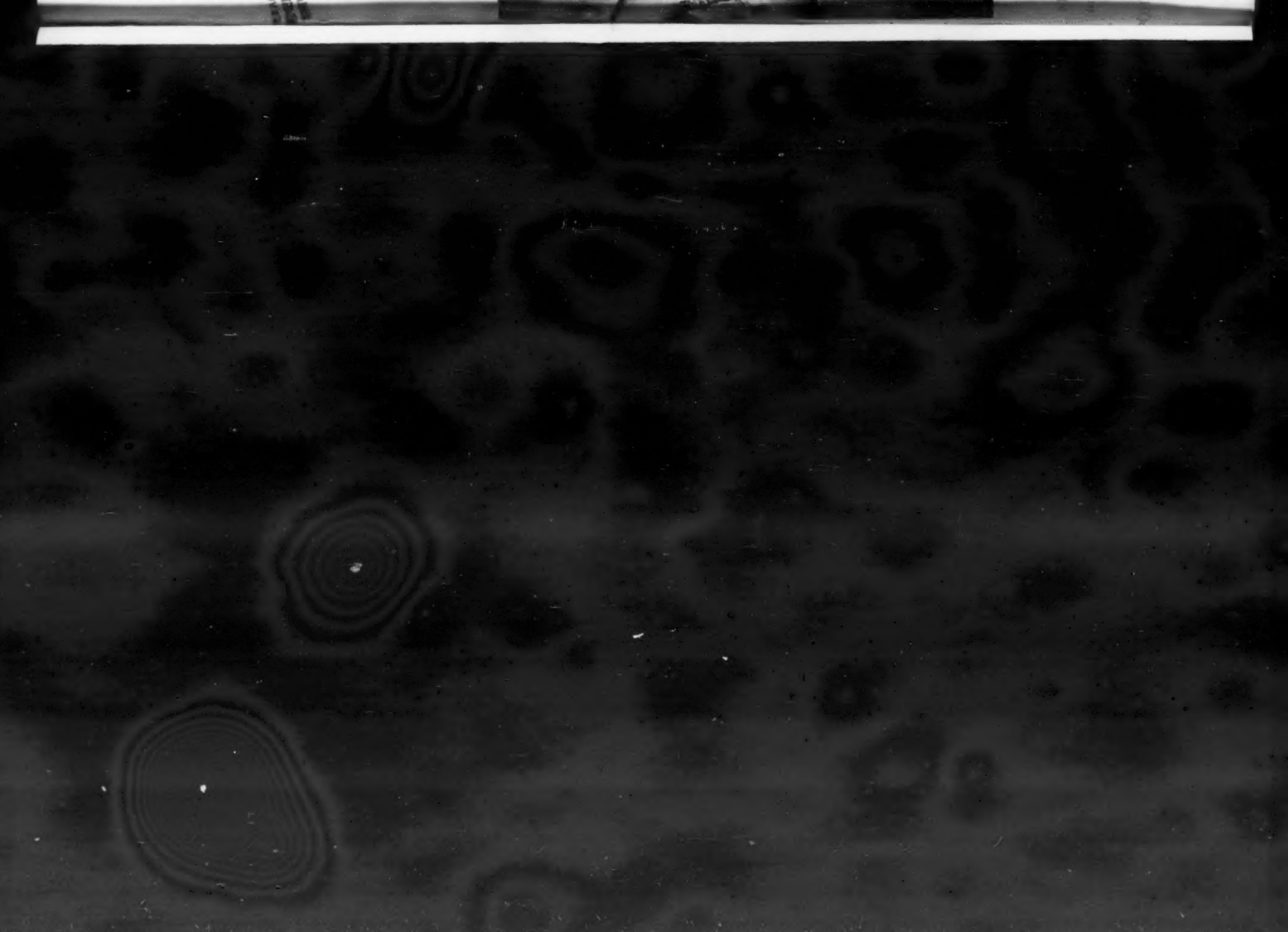
There are now nearly 800 public officials enrolled in these courses in nearly 300 cities in 44 states.

WRITE FOR A SPECIAL CIRCULAR TODAY

THE INTERNATIONAL CITY MANAGERS' ASSOCIATION

1313 EAST 60TH STREET CHICAGO



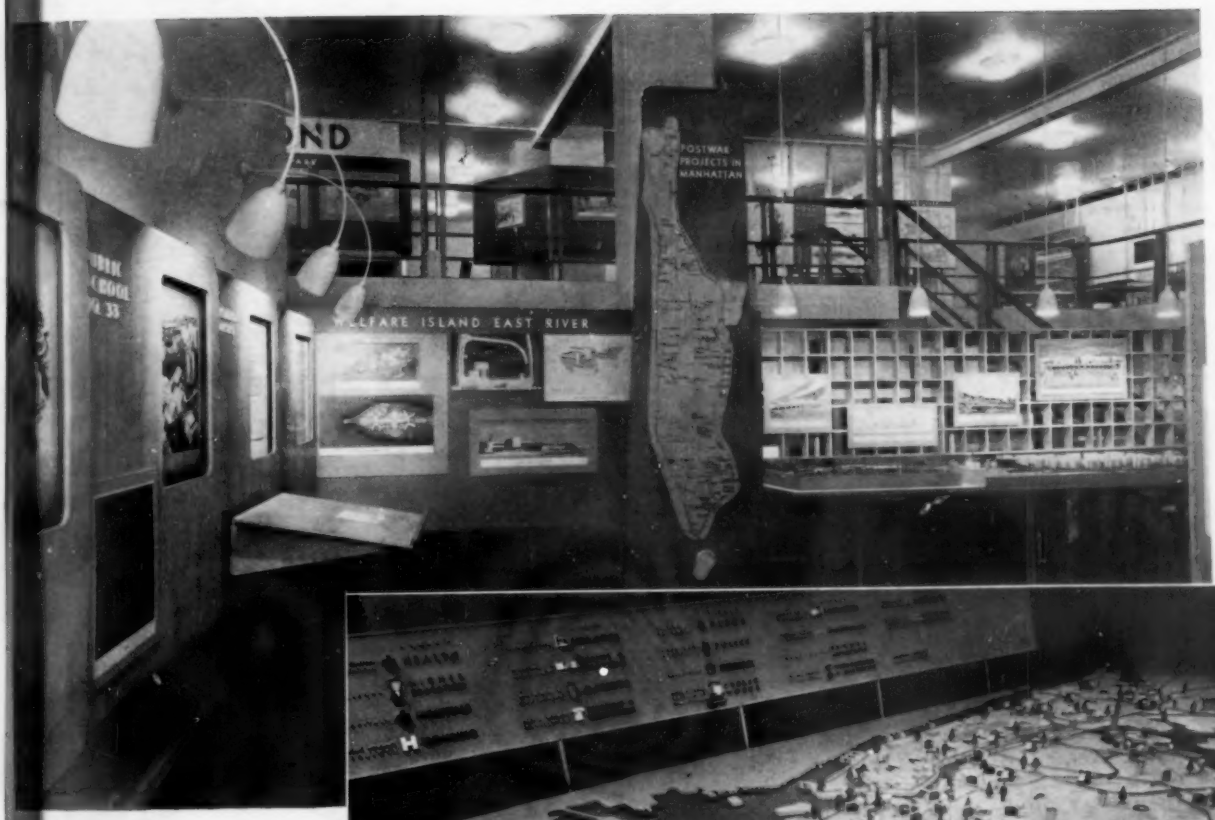


MAY 16 1944

MAY, 1944

The American City

PERIODICAL ROOM
GENERAL LIBRARY
UNIV. OF MICH.



EW YORK EXHIBITS
Billion-Dollar Program
of
WAR PUBLIC WORKS
(See page 5 of this issue)